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RATES OF PHYSICAL IMPAIRMENTS IN 28 OCCUPATIONS, BASED ON 17.294 MEDICAL EXAMINATIONS 1

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In a recent paper analyzing certain phases of a tabulation of health examinations,² it was brought out that broad occupational groups of white, native-born, male life insurance policyholders showed marked differences in the rates of physical impairments. Of all the groups (agricultural, business, professional, and skilled trade), the one which, in general, presented the highest rates was "skilled trade." Such a finding made it desirable to study the rate of impairment in the specific occupations making up this group, and that is the purpose of the investigation reported in this paper. In order to make the comparisons as comprehensive in application as possible, there have been included a number of specific occupations which would not strictly fall within the definition of "skilled trade." Thus the study is based upon 28 occupations (with a total of 17,294 persons), instead of the 19 occupations used in the previous analysis.

In view of the fact that the general conditions of the investigation and the possible factors of selection involved were described in detail in the first paper in this series,³ it is necessary at this point only to say that the data were taken from records of examinations which had been given to policyholders as a part of the welfare service of certain life-insurance companies, and were made by physicians cooperating with the Life Extension Institute. Such examinations are not to be confused with those made of applicants for insurance. All the persons included in the study had previously taken out life insurance. This is a factor of importance in considering the representativeness of the

¹ Studies in Diseases of Adult Life No. 6, from the Division of Research, Milbank Memorial Funda. This phase of the studies was carried out in cooperation with the Office of Industrial Hygiene and Sanitation, United States Public Health Service. The data were made available by the Medical Department of the Life Extension Institute.

³ Studies in Diseases of Adult Life No. 4: Physical Impairments and Occupational Class. Differential Rates Based Upon Medical Examinations of 100,924 Native-born, Adult White Insured Males. By Edgar Sydenstricker and Rollo H. Britten. Pub. Health Rep., vol. 45, No. 34, Aug. 22, 1930. (Reprint No. 1404.)

³ Studies in Diseases of Adult Life No. 1: General Results of a Statistical Study of Medical Examinations by the Life Extension Institute of 100,924 White Male Life Insurance Policyholders Since 1921. By Edgar Sydenstricker and Rollo H. Britten. Amer. Jour. Hyg., Vol. XI, No. 1, pp. 73-155, January, 1930.

individuals included in the various occupations, because it is quite apparent that individuals who have purchased life insurance and have also taken the trouble to obtain a health examination are not typical of the general industrial worker. This fact is especially true of certain of the occupations which are made up largely of persons on the lower economic planes.

Women, foreign-born, and colored persons have been excluded from the study. The number of women in specific occupations was not sufficiently large to permit a determination of rates of physical impairment. It is not probable that the foreign-born or colored individuals who would be included in records of examinations of this character would be sufficiently representative to be used.

The examinations are of the periodic type, but for this analysis first

examinations only have been considered.

In the paper dealing with broad occupational classes, it was found that the "skilled trade" group showed unusually high impairment rates for the following conditions: Defective vision, uncorrected; defective hearing; carious teeth; slightly infected gums; pyorrhea, definite; insufficient dentistry; frequent colds; bronchitis; organic valvular lesions of the heart; enlarged heart; arterial thickening; constipation; backache; insomnia; use of patent medicines; habitual use of laxatives; varicose veins; albumin in urine; and a tendency to rank high for a number of other conditions, such as sugar, pus, blood, and casts in the urine. The only condition in the "skilled trade" group showing a rate greatly below that of the other groups was defective vision, corrected, and this low rate means merely that a larger proportion of persons in the "skilled trade" group lets defects of vision go uncorrected.

The purpose of the present paper will be to determine in so far as possible whether specific occupational factors account for these

higher rates.

The questions answered by the policyholder in his personal history were—"Occupation;" "Particular kind of work;" "Previous occupation." The physicians who were making the examinations were not concerned with the matter of occupation or the making of records for purely statistical purposes. It is impracticable, therefore, to make a rigorous classification according to industry and occupation, and each of the groups used must be regarded as more or less indefinite in nature. At the same time reference to the 28 occupations for which there were sufficient numbers to permit analysis will show that a fairly specific classification has been possible.

As was stated in previous papers, for the purposes of this series of studies the examinations have been divided into two groups, namely, those made in the "head" offices of the Institute (principally in New York, but later also in Chicago and Boston), and those made in

the "field" (all other localities in the United States and some in Canada). Considerable difference in the rates for the same impairment has been revealed by comparing the results in these two groups, but for the purposes of the present study it has generally been advisable to consider only the "field" examinations, because of the small numbers in the other group.

Very little information is available as to the inherent differences in individuals following specific occupations. One fundamental factor, however, lies in the age distribution of persons in this study. Table 1 presents the average age of persons in each occupation in the "field" and "head" offices, as well as the number of persons examined.

Table 1 .- Average age and number of workers in each occupation 1

and the layer process are noticed the		e age in ars	Number	of persons
Occupation	In field	At head office	In field	At head office
Total	37.8	37.1	17, 294	3, 203
Blacksmiths	43.6	45.8	172	17
Domestic help	42.2	38.8	188	44
Carpenters	41.8	42.3	1, 673	153
Bricklayers	40.7	38.6	298	44
Painters	39. 5	40.7	623	147
Firemen (stationary)	39.4	40.5	617	70
CD 11	39. 3	39. 4		
			1, 053	. 486
Waiters and hotel servants	39. 1	36.6	282	112
Butchers	38. 8	38. 5	564	132
Firemen, police	38. 7	38.6	440	117
Barbers	38.7	38.8	721	95
Metal workers	38. 6	37.4	347	40
Ironworkers	38, 6	38.0	332	42
Foundry workers	38.6		173	5
Street-railway employees	38.5	35.9	287	20
Woodworkers	38.4	37.8	396	42
Plumbers, pipe and steam fitters	38.0	33.8	829	148
Miners	37. 2	00.0	288	3
Shoe-factory operatives	37.1	36, 2	532	62
	36.9	36. 3	977	232
Printers				
Textile mill operators	36.7	37.7	207	24
Machinists (office, store)	36.4	36.6	3, 070	265
Telephone and telegraph operators	36.4	34.9	410	42
Factory workers (unclassified, light)	36.1	35. 2	611	104
Garment operatives	35. 2	35.3	268	240
Chauffeurs	35. 1	32.9	595	232
Cutters (cloth)	34.8	35.4	327	174
Electricians	34. 2	32.8	1, 014	199

^{1 20} to 59 years of age.

It will be noted that, in general, the average age does not differ widely, being from about 39 to 37 years for half of the occupations. However, a few groups show more marked differences. For instance, the average age of blacksmiths in the "field" data is 44 years and the average age of electricians 34 years. The effect which these distinctions in age have upon the impairment rates will be considered in the course of the paper.

It is difficult to interpret the differences in impairment rates for the various occupations, because the number of persons in each occupa-

tion varies greatly, ranging from 3,070 to 172 in the "field" data. It was also found that the rates of specified impairments varied widely in the different occupations, from about 40 per cent to about 1 per cent. Accordingly, a criterion was required in order to eliminate rates where the chance fluctuation was too great. To do this it was necessary to have an objective, arbitrary limit, independent of the opinion as to whether the rate in question was relatively high or low in comparison with other rates for the same impairment. Such a criterion could not be based entirely on the number of persons in the occupation, since even the occupations with relatively few could be used for the very common impairments; nor on number of cases of a particular condition, since the smaller the rate the fewer the cases required to establish significance. By reference to the actual probabilities involved, the following method was developed: If the number of individuals in a given occupation was too small to yield, at the median rate for all occupational groups, $50\sqrt{pq}$ cases, that occupation was omitted for that particular impairment.4

Although some of the individuals classed in the various occupations are more than 60 years of age, it was felt that a more precise indication of the rate of impairment among persons actually employed in industrial work would be obtained by limiting the study to individuals between 20 and 60 years of age, and this has been done throughout the discussion.

The basic data on which the analysis rests are given in Table 2. The data are limited to the "field." In the appendix will be found tables showing the number of cases for both "head" and "field."

⁴ Here p represents the probability that the impairment would be found in the whole group (i. e., the rate reduced to a unity basis), and q the probability that it would not be found. It will be noticed that the product of these two probabilities becomes less as the rate decreases (i. e., from 50 per cent down). The constant 50 was chosen arbitrarily to give a criterion of 25 cases at an average impairment rate of 50 per cent, since the square root of one-half times one-half is one-half. This would require a population of 50 persons. If the average rate for an impairment is 10 per cent, then the square root of the two probabilities is 0.3, and 15 cases are required, or a population of 150. At 5 per cent we have 11 cases and a population of 220. At 3 per cent we have about 8 cases and a population of about 275. A graph was prepared from which these values were easily derived.

TABLE 2.—Impairment rates by cause in each specific occupation, after application of criterion

Firemen, police		-		25.9	*	26.6	d	19.5	13.2	35.5	4.8	123
Telephone and tele- graph operators	-			27.6	ed	33.7	=	18.8	11.7	31.7	6.1	7.00
Street railway em-		4		8	10	40	ó	21.6	16.7	80.00 4.00	10.1	12.5
Butchers	0			4 8		24.5		17.0	17.4	34.4	7.3	12.4
Barbers	8			27.2		24.6	-	10.5	13.3	4.0	7.2	12.6
Chaufteurs	×			30.9		31.3		200	18.	37.0	6.1	13.8
Domestic help				8,6		19.1		13.8	22.9	6.0	6.4	14.4
Waiters and hotel serv- ants		0		32.3		8		21.3	19.1	34.5	6.6	14.5
Electricians	8			30.3	99	25.7	6	19.6	15.0	33.3	4.5	9.4
Plumbers, pipe and steam fitters	-			1 8		23.5		21.1	20.4	30.4	8.0	14.2
Bricklayers				25.2		22.1		21. 1	23.2	8.1	7.0	15.8
Carpenters	- 2				6.6	23.9	:	16.8	21.0	9.6	9.3	12.9
Painters	20			3 .		28.0		21.5	23.4	8.3	11.1	13.6
Cutters (cloth)		23		100		31.2		32.1	14.7	30.6	4.9	13.1
Tailors	-		6	9	pol	30.8		13.7	15.9	33.6	80	21.6
Garment operatives		60		18.5	0	36.7	5 1	16.0	18.3	7.5	0.6	17.5
Printers	1.5			32.0		200		17.1	14.9	7.8	59	13.5
classified, light)	60			0		23.9	-	19.4	20.0	90.54	6.1	14.1
Textile mill operators Factory workers (un-				24.2		21.3	9 (18.0	16.9	8.0 8.0 8.0	5.3	11.6 1
Shoe factory operatives	60	7	-	24.1	61	6.6	0 ,	17.7	69	7.5	80	11.8
Firemen (stationary)	8			24.6	-	24.5		16.0	11.	8.1.8	9.4	69
Machinists (office, store)	00				10	22.7		17.4	1 21		6.3	11.1 12.
		6.1	64		-	10.4		18.9	91	1.2 31.	5.8	9
Woodworkers		9		. 0	0	09-	4 (20 60	0 17.	0.0%	90	1 9
Metal workers				8	- 1	20	. (20	29	7 6.0	*S	3 16.
Blacksmiths				8	-	234	0 .	5 18	1 21.	1 28	1	12, 1 16, 3
Foundity werkers		8		8	10	7 19	9 0	9.4 5.4	5 19.	2 31.	90	6 12.
Itonworkers		4		8	4	200	5 5	25.5	8	.000		es.
Miners		9		25.7		25.0	1	17.4	17.7	7.33	.7.3	10.4
Nature of impairment, disease, or symptom	Respiratory: Tuberculosis, actual or suspected	Lung pathology not suggestive of tuber- culosis	Bronchitis, emphy-	Enlarged, diseased, or buried tonsils	Deflected septum— Moderate or marked	Slight Naconharvnoitie	Hypertrophic rhini- tis (enlarged turbi-	Frequent colds.	Teeth— Carious toeth, septic roots Heavy dentistry	vised) Wissing teeth	nite) infected	gums 10.4 1

TABLE 2.—Impairment rates by cause in each specific occupation, after application of criterion—Continued

Firemen, police	8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	25.21	2	2.7	2.5	6.1	-106	3	412	***
Telephone and tele- graph operators	30.70	32.4	60 60	1.7	2.0	5.4	5.0	3	5.64	44
Street tellway em-	39.4	34.8	00 c4	-	4.0	80	8.7	80	25.0	16.0
Butchers	33.73	11.5	2.7	3.0	4.3	6.1	100	6	8.0	120
Barbers	001-	0000	4.	2.6	2.1	2.2	6.7	4.0	40	1.5
Chaufeurs	0 ± 8	6.4	0	1.7	-	8.1	40	-	74	40
Domestic help	25.53	272	65	-	e4	-	0	+	===	- 9
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Waiters and hotel serv-	# # # # # # # # # # # # # # # # # # #	6 31.	*	0	0	*	50	6 10.	125	08
Electricians	8 H &	83	ci	ri .	cí	10	-i œ	4	54	24
Plumbers, pipe and steam fitters	30.00	27.2	2.7	27	66	60	10.7	+,	13.0	44
Bricklayers	5,89	30.5	**		4.0	4.7	1	.4	14.8	16. 5
Carpenters	30.91	24.0	69	3.0	2.7	4.5	60	69	3.9	16.7
Painters	1.0.7. 21.0.4	30.7	9	2.7	1.8	5.5	11	7.5	14 5 5 5	14.0
Cutters (cloth)	10.7	13.8	3.1	1.5	3.1	64	→ ∞	6.3	7.6	12.9
Tailors	80 00 00 00 00 00 00 00 00 00 00 00 00 0	31.5 2	1.6	2.5	2.7	9.0	12.3	*	47	15.0
Garment operatives	\$ 13.0 0 8.1	13.4		1	1	1.1	13.4	9	14.6	100
Printers	-0-	0+	3.5	1.8	3.0	6.0	500	*	10	12
classified, light)	80.0 80.0	7 28	-	-	+		90	-	80.4 51.40	-14
Factory workers (un-	87.1.0s	6 8 27	ci	ci	60	1	40	6	0.49	44
Textile mill operators	\$ \$ \$ \$ \$	86.5	1	90	60	-	e e e		80	2
Shos factory operatives	æ 21 25	17.	+	ci	ei	4	eisó	۲.	1,50	48
Firemen (stationary)	34.0	26.9	3.2	4		8	16	6.5	10%	46
Machinists (office, store	34.0	8 00 1 00	6.7	23	4	5.0	0.00	5.6	5.1	15.8
Woodworkers	8.01. 38.4	31.3	4.8	40 60	4.3	e0 e0	45.	4.3	6.3	48
Metal workers	35.23.86 25.23.86	30.0	2.0	0	2.9	4.0	80 GS	64	4.0	18.1
Blacksmiths	20.00	12.2		- 1	!	1	7.0		12.2	20
Foundry workers	% 12.2 % 11.2	0.8		Ť	İ	T	64	1	12.7	18.6
Ironworkers	8 0 0 0 0 0 0 0 0 0 0 0	-10	3.0	3.0		3.0	60	2.1	6,13	16.9
Miners	A.0.8 800	8.3 12.	2.2	1		7	2		10.1	
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Nature of impairment, disease, or symptom	Other—Continued. Other—Gastric disturbance. "Acid stomach." Constitution	Hemorrhoids	region of aj pendirreulatory:	Enlarged heart. Organic valvular	Functional heart	cken	Blood pressure—	limeters above average 15 or more m'i-	Rapid pulse, over 90. Albuminary:	

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In order to give a more precise expression of the differences in the rates of impairments in these occupations as a whole, compared with the population generally, the rank of the "business" group, in comparison with the 28 occupations, has been determined for each impairment. The rates for the "business" group, which is a very large one, are not particularly high or low, and so may be taken as typical of the examinations in general. It should be pointed out that the average age of workers in the trades represented in this study is about the same as that of persons in the "business" group.

The rank was determined prior to applying the criterion just discussed, in order to avoid having an unequal number of items in the different arrays. Table 3 gives also the "business" rate and the average occupational rate (median after applying criterion), with the ratio of the median rate to the "business" rate.

Table 3.—Rank of "business" in comparison with the 28 occupations 1 for "field" data

		Ratio of	R	ste
Nature of impairment, disease, or symptom	Rank 1	tional to business rate (busi- ness=100)	Business	Occupa- tional 1
Carlous teeth, septic roots	28	147	12.1	17.
Pyorrhea (definite)	27	144	4.8	6.
Slightly infected gums	26	125	10.4	13.
Backache.	26	149	3.7	
Missian Assal	25	122	6.0	
Missing teeth.	20			7.
Albuminuria slight	25	111	14.1	15.
Habitual use of laxatives	24	109	25.8	28.
Arterial thickening—slight	24 23 23 23 22 22 22 22 22 22 22 22	123	7.3	0.
Frequent colds	23	117	14.9	17.
Constipation	23	100	32.8	85.
Pus in urine	23	112	9.4	10:
nsomnia	22	130	1.0	1.
A bnormal reflexes.	22	1112	5.2	A.
Defective hearing	22	118	9.2	10.
Dizziness	22	112	6.7	7.
Bronchitis, emphysema.	22	114	1.4	i
Caste hyeline in urina	22	100	8.8	9.
Casts, hyaline, in urine Defective vision, uncorrected	21	116	20.1	23.
Adenitis	20	125	2.8	1
	20	100	4.3	
Weak inguinal rings	20			4.
Casts, granular, in urine		120	5.0	0.
Lung pathology not suggestive of tuberculosis	20	121	3.0	4.
Enlarged heart	19	119	2.1	2.
Ternia	19	104	4.8	8.
requent or painful urination	19	109	8.0	8.
Wax in ears	19	104	9.6	10.
rterial thickening—moderate and marked	18	121	1.9	2.
Pastric disturbances	18	100	7.8	8.
Ibuminuria—marked amount	18	111	1.8	2
Varicose veins	18	114	3.7	4
'uberculosis—suspected or actual	18	100	1.1	1.
rganic valvular heart conditions	18	104	2.8	2
Acid stomach"	18	106	10.5	11.
Deflected septum, marked	18	102	4.1	4
enderness in region of appendix	17	103	3.1	3.
unctional murmur.	16	102	4.9	5.0
ngar in urine trace or definite	15	102	5.7	A.
ugar in urine, trace or definite. High blood pressure (20 mm. and more above average)				
Varicocele	14	96	5.5	5.1
	14	99	8.1	8. (
cnlarged thyroid, simple goiter	13	100	2.4	2.4
nlarged, diseased, or buried tonsils	13	98	27.6	27. 0

¹ Prior to applying 50 ypq criterion.

Median rate after applying 50 ypq criterion.

TABLE 3.—Rank of "business" in comparison with the 28 occupations for "field" data—Continued

epiter and production has separated the		Ratio of	R	ate
Nature of impairment, disease, or symptom	Rank	tional to business rate (busi- ness=100)	8. 5 12. 00. 7 9. 7 6. 9 10. 0 6. 0 21. 3 25. 0 4. 8 34. 7 2. 8	Occupa- tional
Nasopharyngitis	13	98		8.3
Hemorrholds	13	96		11. 8
Hypertrophic rhinitis (enlarged turbinates)	12 12	97 95		20. 1 9. 2
Nervousness	11	97		6.7
Use of patent medicines	ii	96		9. 6
Rapid pulse	11	96 88		5.3
Headache	10	92	21.3	19. 6
Deflected septum, slight	10	97		24. 2
Enlarged prostate	10	85		4.1
Heavy dentistry (X ray advised)	7	91		31. 5
Low specific gravity	5	82		2.3
Low blood pressure (15 mm. or more below average) Defective vision, corrected	1	85 62	15. 7 29. 6	13. 4 18. 4

It will be found that for carious teeth, for instance, the "business" group as a whole ranks twenty-eighth. This means that all but one of the 28 occupations under consideration had higher rates for carious teeth than the average rate for the "business" group. In other words, the impairments listed in the upper part of the table (down to rank 15) are those for which the rates among the industrially employed were above average. In the lower part of the table will be found the impairments for which the contrary was true.

A very clear impression is left by this table, i. e., that excessively high impairment rates in a few of these occupations which involve definite hazards are not sufficient to account for the generally higher rates which are found to be characteristic of the industrial workers as a whole when compared with the other persons analyzed. There are more than 10 findings and symptoms for which the rates in nearly every occupation are above the average for "business." In other words, one must come to the conclusion that where there is a marked difference in health and physical condition between these groups it is the result of various factors associated with social, educational, or economic causes.

For the purpose of an adequate comparison with the impairment rates of the "business" group, a ranking of the occupations according to the magnitude of the rates was desirable. For economy of space, comparison is limited to those occupations which had rates definitely above the "business" average for a given impairment. To determine this question, again, an arbitrary standard was required. A standard based directly on the probable error involved too much labor and was not considered satisfactory, since it would omit from consideration a large number of occupations which, on the average, were significantly

above the "business" level. The method chosen was very simple and, if arbitrary, had the advantage of being purely objective. After exclusion of rates which did not meet the criterion of size of occupational groups, the remaining rates were ranked for each impairment according to magnitude. The "business" rate was then inserted in numerical order in this array. The occupations falling below the "business" rate were counted, and then the same number immediately above the "business" rate were eliminated, together with those below it. All higher than these were included in the table. This method, of course, was based on the assumption that in a chance distribution there will be as many items above the average as below it. Again it must be stressed that no definite implication is involved that all of the occupations remaining after this standard is applied are significantly high, or that none left out is significantly high; but that approximately the number of occupations included in the table are significantly above the "business" level.

In the case of several of the smaller occupational groups it is realized that the rates are somewhat uncertain. For the same reason there is a tendency for some of the occupations representing the smaller groups to appear at the top simply as a result of chance fluctuation. The rates at the top are to be taken as somewhat exaggerated. However, the general tendencies of the data appear to be unmistakable.

A careful consideration of Table 4 will indicate which occupations explain the excess among industrial workers as compared with the "business" average, but the impression to be derived will undoubtedly be that previously stated, viz, an excess for the industrial worker generally rather than outstandingly high rates for particular occupations. However, some differences for specific impairments are of interest.

For uncorrected defective vision, three occupations are outstanding—garment workers, cutters, and tailors. It may be remarked that the same is true when corrected and uncorrected vision are combined.

For defective hearing a very interesting result is found: The first six occupations in the list are those in which noise is a definite factor. This is particularly true for blacksmiths, who have a rate

This point may be clearly explained by reference to a condition such as carious teeth. In that case 8 occupations showed rates in excess of that of "business" by more than four times the probable error; but, as a matter of fact, many of the others must have been significantly higher, because 27 occupations were above the "business" level and only 1 below. We can not say that all of those 27 were significantly higher, but we know that most of them were. In other words, if we think of the occupations as a series, rather than a single one, it becomes necessary to consider many which could not be shown by reference to the probable error to be significantly different. Moreover, the probable error ceases to have a precise meaning when the test is applied to 28 different items rather than one. For instance, in the case of the highest rate for a given impairment, we have selected a rate at one end of the distribution and are most likely dealing with a chance that would occur only once in twenty-eight times. A positive deviation of three times the probable error would be expected to occur from chance alone about once in twenty-eight times. Thus the precise meaning of the probable error is lost.

very much in excess of that in any other occupation, and nearly three times that of the "business" average.

For carious teeth and pyorrhea, painters have the highest rates, a fact which is possibly associated with lead poisoning.

For hernia, it is observable that none of the occupations requiring arduous labor is above the "business" level—an indication of the factor of selection which is present.

For constipation, it is observable that chiefly the sedentary occupations appear at the top of the table.

Table 4.—Ranking of occupations which have rates significantly above those of the "business" group

Occupation	Impair- ment rate	Ratio to average	Number of persons
RESPIRATORY		11	
Lung pathology not suggestive of tuberculosis:			
Cutters (cloth)	7.3	150	32
Tailors	7.1	154	1, 05
Miners	6.6	143	28
Garment operatives	6.0	137 130	26 28
Waiters and hotel servants	5.8	126	62
Butchers	5.7	124	56
Printers	5.4	117	97
Telephone and telegraph operators	5.4	117	41
Woodworkers	5.1	111	39
Woodworkers Factory workers (unclassified, light)	4.6	100	61
Metal workers	4.6	100	34
Business	3.8	83	41, 66
Bronchitis, emphysema:			330
Tailors	3.2	200	1,05
Butchers	2.8	175	56
Plumbers, pipe and steam fitters Factory workers (unclassified, light)	2.1	131	82
Factory workers (unclassified, light)	2.0	125	61
Firemen, police	1.8	113	44
Carpenters	1.8	113 88	1, 67
Business	1.4	80	41, 66
Deflected septum, moderate or marked: Street railway employees	5.9	140	28
Chauffeurs	5. 7	136	59
Painters	5. 5	131	62
Plumbers, pipe and steam fitters	5. 2	124	82
Business.	4.1	98	41, 66
requent colds:			,
Iron workers	21.4	123	33
Bricklayers	21. 1	121	29
Chauffeurs Factory workers (unclassified, light)	20.5	118	59.
Factory workers (unclassified, light)	19.4	111	61
Metal workers	19.3	111	34
Woodworkers	18.9	109	39
Telephone and telegraph operators.	18.8	108	41
Textile mill operators	18.8	108	20
Electricians	18.5	106	1, 01
Cutters (cloth)	18.3 18.0	105	32 17
Blacksmiths	17.7	103	533
Shoe factory operatives	17.5	101	56
Miners	17.4	100	28
Machinists (office, store).	17.4	100	3, 07
Plumbers, pipe and steam fitters	17. 1	98	826
Business	14.9	. 86	41, 66
DIGESTIVE-TEETH			
arious teeth, septic roots:		1000	
Painters	23.4	131	623
Bricklayers	23. 2	139	29
Domestic help	22.9	129	18
Blacksmiths	21.5	121	173
Firemen (stationary)	21.1	119	61
Carpenters	21.0	118	1, 67
Ironworkers	20. 5	115	33 82

Table 4.—Ranking of occupations which have rates significantly above those of the "business" group—Continued

Occupation	Impair- ment rate	Ratio to average	Number of persons
DIGESTIVE—TEETH—Continued	The Pi		
Carlous teeth, septic rooots—Continued. Factory workers (unclassified, light) Waiters and hotel servants. Foundry workers. Garment operatives. Chaufleurs Woodworkers. Miners Butchers Shoe-factory operatives Textile-mill operators. Street-railway employees Machinists (office, store) Tallors	20. 0 19. 1 19. 1 18. 3 18. 3 17. 9 17. 7 17. 4 16. 9 16. 7 16. 1 16. 9	112 107 107 103 103 101 99 98 97 95 94	61 28 17: 26: 59: 39: 28: 56: 53: 20: 28: 3, 07: 1, 05:
Blectricians Metal workers Printers Cutters (cloth) Barbers Business Missing teeth:	15. 0 15. 0 14. 9 14. 7 13. 3 12. 1	90 89 84 84 84 83 75 68	1, 05; 1, 01; 34; 97; 32; 72; 41, 66;
Cutters (cloth) Carpenters Domestic help Street-railway employees Painters Factory workers (unclassified, light) Firemen (stationary) Bricklayers Printers Shoe factory operatives Garment operatives Chanfleurs Electricians Electricians Firemen, police Miners Ironworkers Business Pyorrhea (definite):	10. 1 9. 9 9. 6 8. 4 8. 3 8. 1 7. 5 7. 5 7. 4 7. 3 7. 3 7. 3 7. 3	138 136 132 115 114 112 111 111 108 103 101 101 100 100 99 82	327 1, 673 188 2878 623 611 617 298 977 5322 268 829 595 1, 014 440 288 332 41, 667
Painters. Street-railway employees Waiters and hotel servants Firemen (stationary) Carpenters Garment operatives Tailors Plumbers, pipe and steam fitters Ironworkers. Miners Butchers. Barbers Butchers. Bricklayers Shoe-factory operatives. Domestic help. Machinists (office, store). Telephone and telegraph operators Chauffeurs Factory workers (unclassified, light) Woodworkers. Metal workers Textile-mill operators Printers Business Business Business Bigthty infected gums:	11. 1 9. 9 9. 4 9. 3 9. 0 8. 3 7. 3 7. 2 6. 8 6. 3 6. 1 6. 1 6. 1 6. 8 5. 8 5. 8 5. 8	161 143 135 135 130 120 116 113 106 104 101 99 99 98 88 88 88 84 47 77 75	623 2877 282 617 1, 673 268 1, 053 829 332 288 544 721 2298 532 188 3, 070 410 506 611 396 634 727 41, 667
Tailors Garment operatives Blacksmiths Metal workers Bricklayers Waiters and hotel servants Domestic help Plumbers, lipe and steam fitters Factory workers (unclassified, light) Chauffeurs Ironworkers Painters. Printers Cutters (cloth)	21. 6 17. 5 16. 3 16. 1 15. 8 14. 5 14. 4 14. 2 14. 1 13. 8 13. 6 13. 6 13. 5	106 135 125 124 122 112 111 100 106 106 105 104 104	1, 053 208 172 347 298 282 188 829 611 595 332 623 977 327

Table 4.—Ranking of occupations which have rates significantly above those of the "business" group—Continued

Occupation	Impair- ment rate	Ratio to average	Number of persons
DIGESTIVE—TEETH—Continued			
Blightly infected gums—Continued.	1000		
Carpenters	12.9	99	1, 67
Barbers.	12.6 12.5	97	72
Street-railway employees	12. 4	95	283 564
Firemen, police	12.3	96	440
Firemen (stationary)	12.2	94	617
Foundry workersBusiness	12. 1 10. 4	93 80	41, 667
DIGESTIVE-OTHER			2007
Gastric disturbances:			
Street railway employees.	12.2	144	287
Fireman (stationary) Telephone and telegraph operators	11. 2 10. 0	132 118	617
Blacksmiths	9. 9	116	172
Plumbers, pipe and steam fitters	9.8	115	820
Business	7.8	92	41, 667
"Acid stomach": Metal workers	13.8	124	949
Garment operatives	13.8	124	347 268
Garment operativesStreet railway employees	13.6	123	287
Chauffeurs	13.4	121	595
Firemen, police	13. 2 12. 8	119 115	1, 053
Tailors. Business.	10.5	95	41, 667
Constipation:			21,001
Garment operatives	48.1	134	268
TailorsCutters.	42.2 40.1	118	1, 053
Street railway employees	39.4	112	287
Street railway employees Telephone and telegraph operators	39. 3	109	410
Firemen, police Woodworkers	38.9	108	440
Barbers.	38.4	107	396 721
Waiters and hotel servents	37.6	105	282
Painters Factory workers (unclassified, light) Electricians	37.4	104	623
Factory workers (unclassified, light)	37.0	103	611
Domestic help	36. 4 36. 2	101	1, 014
Printers	36.1	101	977
Iron workers	35. 8	100	332
Bricklayers	35. 6 32. 8	99	298 41, 667
Business	04.0	21	41,007
Street railway employees.	34.8	124	287
Iron workers.	34.0	121	332
Firemen, police	32.5	116	440 410
Barbers	31.8	113	721
Tailors.	31.5	112	1, 053
Woodworkers	31.3	111	396
Waiters and hotel servants	31. 2 30. 7	111	282 623
Bricklayers	30.5	100	298
Garment operatives	30. 2	107	268
Metal workers	30.0	107	347
Electricians. Domestic help.	29. 2	104	1, 014
Machinists (office, store)	28.1	100	8, 070
Textile mill operators	28.0	100	207
Shoe factory operatives	27.8	99	532 595
Business	27. 6 25. 8	98	41, 667
CIRCULATORY		70.0	
inlarged heart:	T	1	100
Woodworkers.	3.5	140	396
Iron workers	3.0	120	332 1, 673
Carpenters	3.0	120	564
Shoe factory operatives	2.8	112	532
Firemen, police	2.7	108	440

Table 4.—Ranking of occupations which have rates significantly above those of the "business" group—Continued

Occupation	Impair- ment rate	Ratio to average	Number of persons
CIRCULATORY—Continued			
Organic valvular heart disease:			
Street railway employees	4.9	169	28
Butchers	4.3	148 148	564 396
Bricklayers	4.0	138	29
Iron workers.	3.6 2.8	124 97	333
Business Functional murmur:	2.0	91	41,667
Chauffeurs	8.1	162	590
Garment operatives	7. 1 6. 3	142 126	268 396
Firemen, police	6.1	122	44
Business Arterial thickening, moderate or marked:	4.9	98	41, 667
Metal workers	3.5	152	347
Metal workers. Cutters (cloth) Plumbers, pipe and steam fitters.	3.4	148	327
Plumbers, pipe and steam fitters	3.1	135	829
Tailors. Carpenters. Business.	3.1	135 126	1,05
Business.	1.9	83	1, 673 41, 663
Arterial thickening, slight:			22,00
Garment operatives	13.4	149	268
Tailors	12.5 12.1	139 134	1, 053 282
Bricklayers	11.4	127	296
Painters. Plumbers, pipe and steam fitters	11.2	124	623
Carpenters	10. 7 10. 6	119	829 1, 673
Butchers	10. 0	112	564
Metal workers	9.8	109	347
Textile mill operators	9.7	108 108	207
Chauffeurs.	9.7	108	611 596
Firemen (stationary)	9.6	107	617
Iron workers	9.0	100	332
Domestic help	7.3	100	188 41, 667
Rapid pulse, over 90:			
Waiters and hotel servants	12.1	228	282
Garment operatives	8.7	196 164	268 1, 053
Butchers.	8.0	151	564
Cutters (cloth) Shoe-factory operatives	7.6	143	327 532
Chauffeurs.	7. 0 6. 4	132 121	595
Woodworkers	6.3	119	396
Business	6.0	113	41, 667
GENITO-URINARY			-1:
Franular casts in urine:			
Firemen (stationary)	6.9	115	582
Painters. Waiters and hotel servants. Telephone and telegraph operators.	6.8	113	582 264
Telephone and telegraph operators.	6.8	113	384
Miners	6.8	113	251
Shoe-factory operatives	6.6	110	370 487
Firemen, police	6.2	103	402
Business [yaline casts in urine:	5.0	83	38, 176
Domestic help	13.9	145	165
Miners	12.7	132	251
Shoe-factory operatives	12.3	128	487 284
Bricklayers Foundry workers Fo	12.3 11.4	128 119	284 167
Blacksmiths	11.3	118	151
Waiters and hotel servants	10.6	110	264
TailorsButchers	10.4	108	968 512
Street-railway employees	9. 9	103	262
Electricians	9. 9	103	949
Ironworkers Telephone and telegraph operators	9.7	101	309 384
Barbers	9.6	100	660
Painters	9. 5	99	582 38, 176
Business	8.8	92	38, 176

TABLE 4.—Ranking of occupations which have rates significantly above those of the "business" group—Continued

Occupation	Impair- ment rate	Ratio to average	Number of persons
GENITO-URINARY—Continued			
Pus in urine:			1
Domestic help	14. 5 14. 0	138 133	168 264
Bricklayers	13. 4	128	28
Shoe-factory operatives	12.7	121	48
Firemen, police	11.4	109	40
Ironworkers	11.3 11.3	108	30 58
Firemen (stationary)	11.2	107	66
Cutters (cloth)	11.2	107	30
Street-railway employees	11.1	106	26 37
Woodworkers Telephone and telegraph operators	10.7	102	38
Chauffeurs	10.7	102	55
Plumbers, pipe and steam fitters	10.6	101	75
Garment operatives.	10. 5 10. 5	100	25 58
Business	9.4	90	38, 17
requent or painful urination:		-	
Foundry workers	12. 7 12. 5	146	17 28
Metal workers.	11. 2	129	34
Miners.	10.8	124	28
Chaufleurs	10.7	123	59
Telephone and telegraph operatorsPainters	10.5	121 120	41 62
Textile-mill operators	10.1	116	20
Business	8.0	92	41, 66
MISCELLANEOUS			173
Defective vision, uncorrected:			
Garment operatives	36. 2 35. 8	155 154	26 32
Tailors	34.7	149	1, 05
Butchers	29.8	128	56
Waiters and hotel servants	29.4	126	28
Painters	26. 2 25. 7	112	62 82
Plumbers, pipe and steam fitters	25. 0	107	61
Metal workers	24.8	106	34
Printers	24. 5 23. 9	105	97
Firemen, police Domestic help	23.9	103	18
Business	20.1	86	41, 66
Defective hearing:	00 =	970	970
BlacksmithsCarpenters	29. 7 17. 2	272 158	1, 67
Foundry workers	16.2	149	17
Ironworkers.	15.4	141	33
Metal workers	14.4	132 124	34
Plumbers, pipe and steam fitters.	13.4	123	82
Bricklayers	13.1	120	29
Cutters (cloth)	13. 1 12. 0	120 110	3, 07
Machinists (office, store)	11.7	107	61
Garment operatives	11.2	103	26
	11.2	103	410
Telephone and telegraph operators.	9.2	101	41, 66
Factory workers (unclassified, light)		01	
Telephone and telegraph operators. Factory workers (unclassified, light) Business	-	127	333
Telephone and telegraph operators. Factory workers (unclassified, light) Business Vax in ears: Ironworkers	12.7		26
Telephone and telegraph operators. Factory workers (unclassified, light) Business Vax in ears: Ironworkers. Garment operatives.	12.7 12.3	123	07
Telephone and telegraph operators. Factory workers (unclassified, light) Business. Vax in ears: Ironworkers Garment operatives Printers	12.7 12.3 11.9	123 419	977
Telephone and telegraph operators. Factory workers (unclassified, light) Business Vax in ears: Ironworkers Garment operatives Printers Factory workers (unclassified, light) Chauffeurs	12.7 12.3 11.9 11.9	123 419 119 116	977 611 598
Telephone and telegraph operators. Factory workers (unclassified, light). Business. Vax in ears: Ironworkers. Garment operatives. Printers. Factory workers (unclassified, light). Chauffeurs. Bricklayers.	12.7 12.3 11.9 11.9 11.6 11.4	123 419 119 116 114	977 611 598 298
Telephone and telegraph operators. Factory workers (unclassified, light). Business. Vax in ears: Ironworkers. Garment operatives. Printers. Factory workers (unclassified, light). Chauffeurs. Bricklayers. Firemen (stationary).	12.7 12.3 11.9 11.9 11.6 11.4	123 419 119 116 114 112	977 613 590 290 617
Telephone and telegraph operators. Factory workers (unclassified, light). Business. Vax in ears: Ironworkers. Garment operatives. Printers. Factory workers (unclassified, light). Chauffeurs. Bricklayers. Firemen (stationary). Metal workers. Business.	12.7 12.3 11.9 11.9 11.6 11.4	123 419 119 116 114	977 611 590 290
Telephone and telegraph operators Factory workers (unclassified, light) Business. Vax in ears: Ironworkers. Garment operatives. Frinters. Frinters. Factory workers (unclassified, light) Chauffeurs. Bricklayers. Firemen (stationary) Metal workers Business. denitis:	12. 7 12. 3 11. 9 11. 9 11. 6 11. 4 11. 2 9. 6	123 419 119 116 114 112 112 96	97 61: 59 61: 34: 41, 66:
Telephone and telegraph operators Factory workers (unclassified, light) Business Vax in ears: Ironworkers Garment operatives Frinters Factory workers (unclassified, light) Chaufleurs Bricklayers Firemen (stationary) Metal workers Business demitis: Painters	12. 7 12. 3 11. 9 11. 6 11. 4 11. 2 11. 2 9. 6	123 419 119 116 114 112 112 96	97 61: 59 29: 61: 34: 41, 66:
Telephone and telegraph operators Factory workers (unclassified, light) Business. Vax in ears: Ironworkers. Garment operatives. Frinters. Frinters. Factory workers (unclassified, light) Chauffeurs. Bricklayers. Firemen (stationary) Metal workers Business. denitis:	12. 7 12. 3 11. 9 11. 9 11. 6 11. 4 11. 2 9. 6	123 419 119 116 114 112 112 96	977 611 590 290 611 341

Table 4.—Ranking of occupations which have rates significantly above those of the "business" group—Continued

Occupation	Impair- ment rate	Ratio to average	Number of persons
MISCELLANEOUS-Continued			
Adenitis—Continued. Street railway employees.	4.2	120	287
Machinists (office, store)	4.1	117	3, 070
Chauffeurs	4.0	114	594
Business	2.8	80	41, 667
Hernia: Barbers	7.8	156	721
Butchers	7.6	152	564
Waiters and hotel servants	7.1	142	283
Cutters (cloth)	6.4	128 96	41, 667
Veak inguinal rings:	4.0		41, 00
Garment operatives.	9.3	198	268
Cutters (cloth)	8.3	177	327
Tailors Butchers	7. 1 6. 9	151 147	1, 053
Painters	5. 5	117	62
Iron workers.	5.4	115	332
Barbers. Chauffeurs	5.4	115 115	721 598
Printers	5.1	109	977
Metal workers	4.9	104	347
Plumbers, pipe and steam fitters	4.8	102	829
Carpenters	4.7	100	1, 673 41, 667
aricose veins:	4.0	-	11,001
Waiters and hotel servants	6.4	152	282
Street railway employees. Firemen, police.	6.3 5.9	150 140	287 440
Painters	5.8	138	623
Butchers	5.3	126	564
Business	3.7	88	41, 667
Miners	8.0	145	288
Carpenters.	7.3	133	1, 673
Bricklayers	7.0	127	298
PaintersIron workers	6.9	125 125	623 332
Garment operatives	6.7	122	268
Metal workers	6.6	120	347
Tailors Factory workers (unclassified, light)	6.2	113	1, 053
Firemen (stationary)	5.8	105	611
Butchers.	5. 8 5. 7	104	564
Woodworkers	5.6	102	396
Shoe factory operatives. Plumbers, pipe and steam fitters.	5.5	100	532 829
Machinists (office, store) Telephone and telegraph operators.	5.2	95	3, 070
Telephone and telegraph operators	5.1	93	410
ChauffeursElectricians	4.7	85 82	595 1, 014
Business	3.7	67	41, 667
bnormal reflexes:			
Telephone and telegraph operators. Street railway employees.	9.0 8.7	155	410 287
Iron workers	8.4	145	332
Garment operatives	7.9	136	268
Painters.	6.8	117	721 623
Carpenters	6.7	115	1, 673
Textile mill operators. Waiters and hotel servants.	6.2	107	207
Waiters and hotel servants	6.1	105	282
Bricklayers Woodworkers	6.1	105	396
Business	5.2	90	41, 667
IZZIDESS:			000
Miners	9.8	139 131	288 532
Woodworkers	9.6	128	396 617
Firemen (stationary). Factory workers (unclassified, light)	9.4	125	617
Factory workers (unclassified, light)	9.3	124	617 611 332 623 1, 014 829 188
Painters	9.3	124	623
Electricians	8.7	116	1,014
Plumbers, pipe and steam fitters	8.2	100	829
Chauffeurs.	8.0 7.9	107	595 41, 667
Business	6.7	89	41 007

For varicose veins, on the contrary, the occupations above the "business" level appear to be those of workers who are customarily on their feet.

Backache may not be a particularly important symptom, but it is of interest to note that the rate is highest among miners, who usually work in a stooping position, and also among other persons doing arduous work.

The rates for flat feet are not included, because data for the "business" group were not available for this condition. Reference to Table 2 will show, however, that the rates for certain occupations are excessive, particularly garment workers, waiters, cutters, domestic help, tailors, barbers, and butchers.

In addition to manifest variations in the prevalence of specific impairments in different occupations, there is the broader problem of possible differences in general physical condition as indicated by the impairment rates as a whole. Unfortunately such comparisons are difficult, because of the high frequency of relatively unimportant conditions. The total number of impairments per person is therefore of little meaning. It is equally impossible to select any group of serious impairments, since so much difference of opinion must exist in regard to any classification used, and since there is usually no information as to the seriousness of a condition as recorded for a particular individual. It seems preferable to make the comparison purely on the basis of an examination of the rates for individual conditions as given in Tables 2 and 3.

In this connection it is necessary to remember that there will be more variation in the rates for occupations with small populations, and therefore a larger percentage of such occupations will show high rates, quite apart from any true differences among the occupations. There will also be more relative variation in the rates for the less common conditions. Furthermore, any differences which may be found will be subject to much difficulty of interpretation, because of the pronounced effect of selection. Persons with certain impairments tend to drift into occupations where the impairment is not a definite handicap.

An examination of Tables 2 and 3 in the light of these comments gives the unmistakable impression that, aside from the few impairments considered above, the general level of prevalence is about the same for all of the occupations. This fact is again an indication that social, economic, or educational differences are mainly responsible for the variations in the prevalence of impairments noted in this and the preceding study. These distinctions are apparently common to all the occupational groups which have been analyzed. In the case of a few of the occupations, it is suggested that a tendency toward higher or lower rates than the average may reflect selection or the 91026°—32—2

presence of differing social or economic levels within the skilled trade group as a whole.

Generally speaking, the occupational groups included in this study were not large enough to permit an adequate analysis of the rates in specific age groups. A preliminary analysis brought out the fact that the age curve of the impairments for a particular occupation agrees quite closely with that for the occupations generally. It was also evident that the occupational differences brought out in the

previous discussions are present at each age.

One element of the examination which has been given little consideration in this paper is the blood pressure. In preparing the punch cards the actual blood pressure of the individual was not recorded. Instead, his deviation in millimeters from a standard for persons of his age was punched in broad groups, viz, 25 and more millimeters under the average, 15 to 24 under, 14 under to 19 above, 20 to 39 above, 40 to 59 above, 60 and more above. It is desirable to determine from the resulting distribution of deviations what the average blood pressure is for each occupation. An estimated average based on the frequency distribution of the deviations was secured for each occupation. Table 5 gives the averages obtained in this way for each of the 28 occupations, and for the "skilled trade" and "business" groups. It is found that the variation in these averages from occupation to occupation is remarkably slight. Domestic help has the highest average (129.2) and metal workers the lowest (125.2). The "business" average is lower than most of the individual occupations, but again the difference is slight.

Table 5.—Average systolic blood pressure • (20-59) by occupation

Occupation	Milli- meters	Occupation	Milli- meters
Domestic help Blacksmiths Firemen, police Factory workers (unclassified, light) Waiters and hotel servants. Firemen (stationary) Shoe factory operatives. Painters Textile mill operators Chaufeurs. Machinists (office, store) Butchers. Foundry workers. Iron workers. Printers.	129. 2 129. 1 128. 5 128. 5 128. 4 128. 1 127. 9 127. 6 127. 2 127. 2 127. 2	Plumbers, pipe and steam fitters. Garment operatives. Barbers. Electricians. Woodworkers. Bricklayers Miners. Telephone and telegraph operators. Tailors. Cutters (cloth). Carpenters. Street-railway employees. Metal workers. Skilled trade. Business.	126.9 126.6 126.8 126.8 126.2 126.6 126.6 126.6 126.6 126.6 126.7 126.6

[·] Obtained as described in footnote 6.

[•] It is not possible to obtain a direct average of the deviations. However, if the distribution of deviations for a particular occupation is reduced to percentages, and these percentages are cumulated, it will be possible to determine the percentage of persons down to 15 millimeters below, and the percentage of persons up to 20 millimeters above. By plotting these two percentages on "probability" paper, connecting the two points with a straight line, and reading off the deviation at the point where this line crosses the 50 per cent line, it is possible to obtain an average deviation. If this deviation is then added algebraically to the standard which was originally subtracted in the case of each individual, an average blood pressure is obtained. It should be noted that this average more nearly approaches the median blood pressure than the arithmetic mean, but it seems quite adequate for our purposes.

For the larger occupations the same averages have been determined for three broad age groups. They are found to increase with age in the expected way, but the differences among the occupations are quite insignificant.

Table 6 .- Average systolic blood pressure 1 by age for 15 occupations

Occupations	20-34	35-44	45-59
Firemen, police.	123.7	127. 7	136. 2
Factory workers (unclassified, light)	126. 0	125. 1	135. 3
Firemen (stationary)	125, 3	127.0	133. 9
Shoe-factory operatives	123.4	127.0	134. 6
Painters	124.9	125. 1	134. 6
Chauffeurs	123. 1	125. 5	139. 5
Machinists (office, store)	124.6	126.0	133. 3
Butchers	124.1	126. 1	131.0
Printers.	124. 5	124.0	133. 5
Plumbers, pipe and steam fitters	123.1	125. 4	133. 4
Barbers.	122.1	125. 4	133. €
Electricians	123.6	125, 1	134. 6
Telephone and telegraph operators.	123. 6	123.4	132.1
Tailors	121.8	125. 4	134. 2
Carpenters	125. 0	124.8	131. 3
Skilled trade	123.9	125. 7	132.7
Business	122.7	125. 0	132. 1

¹ Obtained as described in footnote 6, p. 18.

SUMMARY

In a previous study it was shown that the rates of physical impairment in a group of skilled workers tended to be definitely higher than in other groups (professional, business, agricultural). The present study was undertaken to determine, in so far as possible, whether the effects of specific occupational factors are sufficient to account for these higher rates. The data employed were the medical examinations furnished to white, native-born, male policyholders as a part of the health service of life-insurance companies. The examinations were conducted by the Life Extension Institute, and the analysis is limited to the first examinations made on each individual and to those made outside of the "head" offices of the Institute. In all, 17,294 persons in 28 specific occupations were included.

It was found that the higher rates characteristic of the industrial workers were not to be explained, except in a few instances, as being due to the hazard of any specific occupation. On the contrary, these higher rates seemed to be the result of various factors associated with social, educational, or economic causes, and to be present, in more or less degree, in every specific occupation studied. Differences among the industrial occupations did not appear to be of great moment, and when found seemed to reflect either selection (the tendency of workers with certain impairments to drift into occupations where such impairments would not serve as a handicap) or the presence within the industrial occupations themselves of social or

economic differences.

Firemen, police

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APPENDIX TABLE 1.-Number of impairments by cause in each specific occupation

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_	80 189	164	83	10	16	48	512	1	R	88	88	2222	2 2	228888
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	10828	88	12	6	13	12	35	-	8	3%	× 2	2222	3 8	2322
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_	131	458	10	10	10	17	12		16	22	800	2822	5 2	71888
_	135	332	17	26	88	53	132	-	29	22	155	\$55E	3 3	219
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_	588	200	34	18	29	40	8 8		-	56	130	2848	3 8	238 105 116
_	25.23	83	77	13	21	S	228		=	88	128	2222	8 8	2822
_	69	22.23	*	60	00	1	800		=	128	80 E	9808	21	2483
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_	69 67 210	166	20	15	10	24	000	\$	3	22	922	52228	8 8	8228
_	343	301	115	7	101	155	252		1/3	382	453	174 266 137 273	283	707 528 367
_	35 40 152 1,	38	18	7	17	25	08	:	1	28	915	8883:	2 23	2228
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disturb	Acid stomach".	laxatives Hemorrhoids Tenderness in re-	appe	1		aujus		pressure and more mil imeters above	15 or more milli meters below	30.00		n orti	pointu	on ded
rie d	d stor	laxatives. Hemorrhoids. Tenderness in	5	hear	iseas	thick	Moderate marked Slight	d mo	or more	pulse, ov- pary: ninuria—	marked	casts urine rine	2 2	ctive vision Uncorrected Corrected ctive hearing
Other-Gastrie	"Acid s Constip	Tend	dia .	arged	heart disease	mur rterial thickening	M o M	Blood pressure— 20 and more mil	15 or	Rapid pulse, ito-urinary:	Blight	urine Hyaline casts in urine Sugar in urine Pus in urine	Frequent or paint urination	Defective vision— Uncorrected— Corrected— Defective hearing
Ott			Porria	Enlarged heart.	A	-5		Blo		Rapid pulse, over 90 enito-urinary: Albuminuria	0	Pur		We De
			Č)						0			×	

APPENDIX TABLE 1.—Number of impairments by cause in each specific occupation—Continued

Firemen, police	~=	tiæ8	885	2282	3-2	\$
Telephone and tele- graph operators	€ 00	223	223	2288	308	25
Street railway em-	===	37	204:	1122	8.28	8
Butchers	212	228	883	382	18.00	85
Barbers	4.8	238	1523	1258	14-7	2
Chauffeurs	2.7	332	228	1888	32-3	2
Domestic help	86	12	575	-22:	1208	12
Waiters and hotel serv- ants	99	882	282	2121	2002	*
Blectricians	88	102	282	222	828	113
Plumbers, pipe and steam fitters	88	233	ននន	818	8=3	2
Bricklayers	40	1248	283	2283	28"3	8
Carpenters	18	2002	145	ន្ត្រីន្ត	319	142
Painters	38	282	888	844	1252	8
Cutters (cloth)	*2	222	237	- × 8 5	8 . 55	72
Tailora	89	252	25.25	1825	2283	103
Garment operatives	===	828	250	2828	4400	18
Printers	22.5	555	287	382	5550	115
Factory workers (un- classified, light)	22	288	225	1628	140	\$
Textile mill operators	41-	100	220	100	5000	83
Shos factory operatives	00	\$28	ដងន	RRRR	8228	4
Firemen (stationary)	15	333	228	3888	14.00 Se	19
Machinists (office, store)	8.1	280 158 137	382	2003	2882	356
Woodworkers	. 22	223	283	2883	8000	2
Metal workers	==	35	184	2832	3248	43
Blacksmiths	• •	14	223	57.	15008	11
Foundry workers	-100	Z.00	æ219	Nº 15	302	2
Itonworkers	17.	8208	525	288	12°2	22
Miners	101	775	288	123	258	8
Nature of impairment, disease, or symptom	Scellaneous—Con. Enlarged thyroid, simple goiter——Adenitis	Chronic skin affections. Hernia Weak inguinal rings.	Varicose veins Varicocele Flat feet	Backache Nervousness	Dirriness Insomnia Headache	cine.

APPENDIX TABLE 2.—Number of impairments by cause in each specific occupation

Firemen, police	1	-			. 93	528	7.81	=	1 15:	3 0	. ;
Telephone and tele- graph operators		7	00	-	22	420	12	2	. 8-	-	• ;
Street railway em-	T	0	0	0	16	800	200	10	00 0		
829U9Jng		64	91	64	8	775	28	8	34	, =	1
Barbers		-	60	64	67	38×	53	=	15 to	000	9
Chauffeurs		64	15	0	142	242	23	10	100	13	
Domestic help		*	60	-0	20	1-884	No	0	2		-
Waiters and hotel serv- sing	1	0	0	64	88	130	200	8	8 5	90	
Electricians	1	60	12	~	113	115	212	100	818	00	100
Plumbers, pipe and steam fitters	T	61	9	40	6	883	88	23	81-	00	4
Bricklayers	1	0	-	0	20	- F. 50 to	135	1-	84	60	1
Carpenters	Ī	*	0	*	8	823	800	36	82	7	40
Painters	1	10	*	80	8	220	23	g	121	18	2
Cutters (cloth)		-	0	2	125	202	128	8	74	7	KA
rolleT		1	28	19	343	253	288	101	88	2	11
Garment operatives		0	9	00	166	25.52	136	8	102	2	2
Printers		-	0	9	139	252	19	35	15	81	E
Factory workers (un- classified, light)		0	*	60	75	152	28	8	22	18	33
Textile-mill operators		0	-	0	=	0.00	© 19	69	97	-	9
Shoe-factory operatives		0	*	1	7	ಹಹೆಚ	99	9	20	10	9
Firemen (stationary)		-	*	+	43	0H4	14.	15	15 4	10	S
Machinists (office, store)		69	a	09	171	228	140	\$	28	18	2
Woodworkers		N	-	0	23	-8a	80	9	9	10	14
Metal workers		-	00	0	12	- Mag	800	00	57	00	2
Blacksmiths	•	0	-	0	12	210	10	9	1-04	-	उ
Foundry workers		>	-	0	•	091	1001	0	401	-	0
Ironworkers			~	-	8	-8ª	8.0	=	900		91
Miners	•	•	•	•	00	0	88	-	0-	-	3
ture of impairment, isease, or symptom	iratory: uberculosis, actual	ung pathology not suggestive of tuber-	culosis Bronchitis, emphy-	Sema Enlarged, diseased, or	buried tonsils.	Slight.	120	9 2 2	(X ray advised). Missing teeth.	Blightly infected	Sums

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Nature of impairment, disease, or symptom	Other—Continued. Other—Gastric disturb-	"Acid stomach". Constipation.	Hemorrhoids Tenderness in re-	dix.	Enlarged heart.	heart disease.	Arterial thickening-	Blood Pressure—	average above	Rapid pulse, over 90.
Miners	•		0-1	-	0	•	0	00	0	00
Ironworkers	100	27	2*	0	0	64	-	23	69	119
Foundry workers	•	0-		0	0	0	•		0	00
Blacksmiths	•	10000	90	0	64	-	69	4	*	00
Metal workers		128	20	0	69	60	10	+00	69	10 60
Woodworkers		200	55.0	64	69	-	01		-	ep 00
Machinists (office, store)	5	28	28	00	0	15	11	58	11	32 4
Firemen (stationary)		8-10	g.o	-	-	0	64	200	60	10
Shoe-factory operatives		200	20	61	0	64	*	82	-	01
Textile-mill operators		200	00	0	0	-	0		64	**
Factory workers (un- classified, light)	:	128	go.	*	-	•	10	₹8	•	18
Printers		787	82	•		•	11	73	12	888
Garment operatives		188	22	•	60	00	11	470	13	48
Tailors		225	88	12	13	=	33	116	8	1.8
Cutters (cloth)		288	38	•	•	64	2	200	9	88
Painters	-	111	24		64	•	80	23	13	8:30
Bricklayers		2212	39	-		69	2	22	40	85
Plumbers, pipe and	-	258	28		_		=	130		7:0
Steam fitters Electricians		222	42	-			- 28	80	-	38
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Domestic help		248	Z.o	-	-	64	•	23	*	=,
Chauffeurs		222	38	10		00	13	-2	9	98
Barbera		912 a	138	64	**	*	1	20	00	7
Butchers		229	88	•	•	*	10	-8	=	88
Street railway em- ployees	1	240	60 04	00	0	•	64	00	-	000
Telephone and tele- graph operators		800	11-04	0	0	00	•	00	00	1-0
Firemen, police		20.00	26					25		7:

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Genito-urinary: Albuminuria— Moderate or marked Slight Slight	Hyaline casts in ur-	urine. rine. prostate	urination fiscellaneous:	Defective vision— Uncorrected Corrected Defective hearing Wax in ears.	gott	tions Hernis Wesk inguinal rings. Wesk inguinal rings. Varicoce veins Varicocele Spinal curvature Backache George Georg

SEX DIFFERENCES IN THE PREVALENCE OF DENTAL CARIES 1

Based on 12,435 Oral Examinations by Dental Personnel in Georgia, Illinois, Missouri, and Hagerstown, Md.

(STUDIES IN DENTAL CARIES No. 2)

By AMANDA L. STQUEHTON, Acting Assistant Surgeon, and VERNA THORNHILL MEAKER, Dental Hygienist, United States Public Health Service

In a previous study,² the prevalence of dental caries in a group of school children of different ages was discussed. Most of the oral examinations were made by one experienced dental hygienist; but since she and the dental hygienist who made the remainder of the examinations had previously worked out a standard technique, their findings have been considered comparable and have been combined.

The first paper, in which is given a more detailed discussion of the field work, considered the prevalence of several dental conditions among children of both sexes. In the present study, the data for

boys and girls are treated separately.

The examination records were so arranged that both temporary and permanent teeth could be charted. All carious teeth were designated, a special subdivision being made, called "remaining roots," which included teeth having crowns which were entirely carious, those having the pulp involved, and those with fistulæ. Instead of the number of individual fillings, the number of filled teeth was charted. The term "total past decay" when applied to permanent teeth includes missing as well as decayed and filled teeth. All the teeth, whether temporary or permanent, which were present in the child's mouth at the time of examination are included in the term "all teeth."

TEMPORARY TEETH

Although the percentages of children of both sexes having one or more decayed or filled temporary teeth decline rapidly after the first few age groups, the percentages remain higher among the boys after the 7-year group. (Table 1, fig. 1.) Excepting among 6-year-old children, more boys than girls had five or more temporary teeth decayed or filled. Undoubtedly, the fact that the percentage of children with decayed temporary teeth decreases with age is due to their gradual replacement by permanent teeth. It may be that boys lose their temporary teeth somewhat later than girls.

¹ From Field Investigations in Child Hygiene, in Cooperation with the Office of Statistical Investigations, United States Public Health Service. Dental Examinations by Meaker and Statistical Analysis by Stoughton.

² Dental decay and corrections among school children of different ages. Public Health Reports, Vol. 46, No. 44, October 30, 1931. Reprint No. 1524.

Table 1.—Condition of temporary teeth of boys and girls of each age from 6 to 14 years

chil- dren	Dec or fi	ayed	Во	ys		179				111	G	ir'e			* 1,1
chil- dren	Dece or fi	ayed							Girls						
dren			Dec	ayed		nain- roots	Fis-	Total	Dec or f	ayed	Dec	ayed		nain- roots	Fis-
700	1 or more			5 or more		5 or more	1 or more	chil- dren	1 or more	5 or more	1 or more		1 or more	5 or more	1 or more
			1		1	NUM	BER,	117		rp .					
451 541 556 673 804 849 659 595 400	394 490 512 607 632 475 235 106 31	268 320 307 289 175 84 24 6	388 485 500 595 622 469 235 103 30	263 309 294 270 168 83 22 6	148 200 224 249 236 181 88 45 20	20 16 17 20 5 7 3 0	47 32 42 24 19 13 2 0	462 581 560 662 848 853 702 588 367	504 553	2777 323 297 195 119 43 10 2	399 521 496 536 540 337 162 64 14	272 316 283 177 113 42 10 2	160 211 205 171 176 126 69 27 4	9 14 10 10 6 1 2 0	4 4 2 1 1
					P	ER C	ENT								
100. 0 100. 0 100. 0 100. 0 100. 0 100. 0 100. 0 100. 0	92. 1 90. 2	59. 4 59. 1 55. 2 42. 9 21. 8 9. 9 3. 6 1. 0	86. 0 89. 6 89. 9 88. 4 77. 4 55. 2 35. 7 17. 3 7. 5	52.9 40.1 20.9 9.8	40.3 37.0 29.3 21.3	4.4 3.0 3.1 3.0 .6 .8 .5	5.9 7.5 3.6 2.4 1.5	100. 0 100. 0 100. 0 100. 0 100. 0	90.0 83.5 65.4 40.6 23.5	50. 9 55. 6 53. 0 29. 5 14. 0 5. 0 1. 4 . 3	86. 4 89. 7 88. 6 81. 0 63. 7 39. 5 23. 1 10. 9 3. 8	58. 9 54. 4 50. 5 26. 7 13. 3 4. 9 1. 4	34. 6 36. 3 36. 6 25. 8 20. 7 14. 8 9. 8 4. 6 1. 1	1.9 2.4 1.8 1.5 .7 .1 .3	10.: 7.: 7.: 3.: 2.:
					TEMP	PORA	RY T	EETH				7			
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55.2 9.8 21.3 8.1 15.5 100.0 90.0 65.4 14.0 63.7 13.0 100.0 7.7 3.3 3.0 3.6 100.0 65.4 14.0 63.7 13.0 100.0 7.7 3.3 3.3 3.5 3.1 100.0 23.5 1.4 23.1 1.4 100.0 7.7 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5	NUMBER 451 394 268 388 263 148 20 47 462 404 277 399 272 160 541 490 330 485 399 200 16 32 551 529 323 521 316 211 556 512 307 500 294 224 17 42 569 504 297 496 283 205 673 607 289 595 270 249 20 24 662 553 195 536 177 171 804 632 175 622 168 256 5 19 848 555 119 540 113 176 849 475 84 449 83 181 7 13 853 346 43 337 42 126 659 235 24 235 22 88 3 2 702 165 10 162 10 69 695 106 6 103 6 45 0 0 588 66 2 64 2 27 400 31 0 30 0 20 0 0 367 14 0 14 0 4 PER CENT 100.0 87.4 59.4 88.0 58.3 72.8 4.4 10.4 100.0 87.4 59.9 86.4 58.9 34.6 100.0 90.6 59.1 89.6 57.1 37.0 3.0 3.9 100.0 91.0 55.6 89.7 54.4 36.3 100.0 92.1 55.2 89.9 52.9 40.3 3.1 7.5 100.0 90.0 53.0 88.6 50.5 36.6 100.0 97.6 21.8 55.2 89.9 52.9 40.3 3.1 7.5 100.0 90.0 53.0 88.6 50.5 36.6 100.0 97.6 21.8 55.2 89.9 52.9 40.3 3.1 7.5 100.0 65.4 14.0 63.7 13.3 20.7 100.0 55.9 9.9 55.2 9.8 21.3 .8 1.5 100.0 40.6 8.0 39.5 1.4 9.8 10.0 17.8 1.0 17.3 1.0 7.6 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 5.0 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 5.0 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 17.5 100.0 11.2 3 10.9 3 4.6 100.0 7.7 11.1	NUMBER 451 394 268 389 263 148 20 47 462 404 277 399 272 160 9 541 400 320 485 309 200 16 32 581 529 323 521 316 211 14 556 5512 307 500 294 224 17 42 560 504 297 496 283 205 10 673 607 289 595 270 249 20 24 662 553 195 536 177 171 10 804 632 175 622 168 236 5 19 848 555 119 540 113 176 6 849 475 84 469 83 181 7 13 853 346 43 337 42 126 1 659 235 24 235 22 88 3 2 702 165 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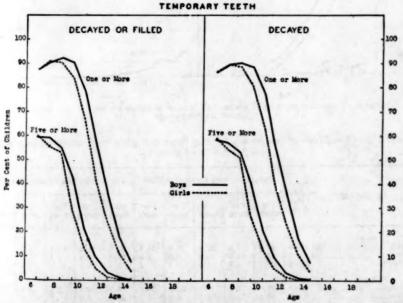


Figure 1.—Prevalence of total past decay and untreated caries in temporary teeth of boys and girls at successive years of age

Since the number of temporary teeth filled is so small, the graphs of the percentages of children having unfilled carious temporary teeth are practically the same as those of children having temporary teeth decayed or filled. The percentages of boys having temporary teeth badly decayed (remaining roots) are also higher than the corresponding percentages of girls in every age except the 6-year group. (Fig. 2.) A higher percentage of boys than of girls have five or more temporary teeth so badly decayed as to be classed as "remaining roots." The proportion of children having one or more temporary teeth with fistulæ is practically the same for both sexes in each age group.

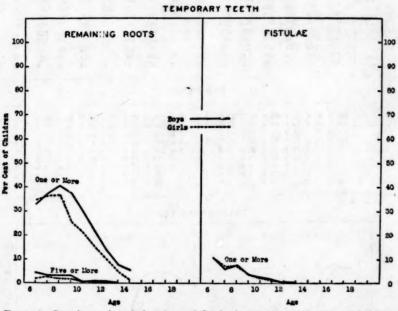


Figure 2.—Prevalence of marked caries and fistulae in temporary teeth of boys and girls at successive years of age

Table 2.—Condition of temporary teeth of boys and girls in three-year age groups from 6 to 14 years

	Total	Per c	ent hav	ing dec	ayed or	filled	Per c	ent hav	ing ren	aining	roots
Age and sex	number of chil- dren	1 or more	3 or more	5 or more	7 or more	9 or more	1 or more	3 or more	5 or more	7 or more	9 or more
6 to 8	1, 548	90.2	77.0	57. 8 23. 6	37. 8	19. 1	37. 0	10.4	3.4	1.2	0.4
9 to 11	2, 326 1, 654	73. 7 22. 5	45.9 5.7	23.6	9.0	2.9	28.6 9.2	1.3	1.4	.3	
6 to 8	1, 603 2, 363 1, 657	89. 6 61. 5 14. 8	74.9 32.7 3.4	56.0 15.1	85. 2 5. 9	16.2 1.7	35. 9 20. 0 6. 0	8.6 3.9	2.1 .7 .1	:1	.1

From the accompanying graphs, it is evident that the relative incidence of various dental defects among boys and among girls is not the same in each age group. Instead of showing rates for each age separately, the children were divided into 3-year age groups and the percentage of children in these groups who had one or more, three or more, etc., teeth showing the defect in question are given in Table 2 and are plotted in Figure 3.

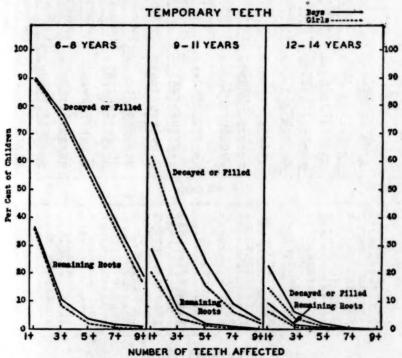


FIGURE 3.—Extent of total past decay and marked caries in temporary teeth of boys and girls in 3-year age groups

In all three groups a greater proportion of boys than of girls had temporary teeth decayed or filled, but the difference was much more marked in the last two groups than among the youngest children.

In the 6 to 8 year group, the percentage of boys having badly decayed temporary teeth (remaining roots) is somewhat higher than the corresponding percentage of girls. In the 9 to 11 and 12 to 14 year old groups a much larger proportion of boys than girls have teeth nearly destroyed by caries (remaining roots).

Table 3.—Condition of permanent teeth of boys and girls of each age from 6 to 19 years

NUMBER

				1	Boys									Girls				
Age	Total	Decayed, missing, or filled		or more	Fill	led	roots, 1	Total	Deca miss or fi	ing.	Decr	yed	or more	Fil	led	roots, 1		
	chil- dren	1 or more	5 or more	1 or more	5 or more	Missing, 1 o	1 or more	5 or more	Remaining roots, or more	chil- dren	1 or more	5 or more	1 or more	5 or more	Missing, 1	1 or more	5 or more	Remaining roots, or more
6	451 541 556 673 804 849 659 595 400 273 130 71 136	517	2 3 7 22 66 92 116 175 166 146 76 50 31 16	453 451 314 219 102 57	0 1 5 9 47 59 70 115 107 67 42 23 15	0 5 3 21 42 63 89 108 90 65 33 21 15 7	6 15 35 77 117 150 127 115 99 122 63 43 29 14	2 1 1 5 8 11 12 20 21 43 26 28 16 9	0 33 8 12 30 44 60 65 49 37 7 14 7 3 3	588	105 281 363 471 643 662 596 506 325 261 183 121 83 64	1 3 9 22 61 104 170 201 162 171 130 96 69 54	103 266 348 436 543 555 525 445 293 223 160 105 70 55	1 3 5 14 30 59 97 119 91 84 60 33 26 17	0 4 10 30 60 85 103 127 84 79 58 51 35 26	3 21 34 87 180 204 164 155 130 129 117 95 63 51	0 0 3 1 6 19 30 28 27 43 51 45 32 33	1 2 6 17 31 46 49 58 38 25 16 10 4
	r							PI	ER CI	ENT				P.				
5 7	100. C 100. C	18. 2 45. 7 61. 3	0.4	17. 5 44. 5 57. 7	0. 2	0.9	1.3 2.8 6.3	0.4	0.6	100. 0 100. 0 100. 0	22.7 48.4	0.2	22.3 45.8 62.1	0.2	0.7	0.6 3.6 6.1	0.5	0.2 .3 1.1

6	100.0	18. 2	0.4	17. 5						100.0								0.2
7	100. C	45. 7	. 5	44. 5	0. 2	0. 9	2.8	. 2	0.6	100.0	48. 4	. 5	45.8			3. 6		. 3
8	100. (61.3	1.3	57.7	. 9	. 5	6.3	. 2	1.4	100.0				. 9	1.8	6. 1	0. 5	1.1
9	100.€	66. 0	3. 3	60.0	1.3	3. 1	11.4	. 7	1.8	100.0	71. 1	3. 3	65. 9	2.1		13. 1		2.6
10	100. C	70. 9	8. 2	62. 6	5.8	5. 2	14.5	1.0	3.7	100. 0	75. 8	7. 2	64. 0	3. 5	7. 1	21. 2	. 7	3.7
11	100. C	74. 2	10. 8	65. 5	6. 9	7.4	17. 7	1.3	5. 2	100.0	77. 6	12. 2	65. 1	6. 9	10.0	23. 9	2.2	5.4
12	100. C	78. 5	17. 6	68. 7	10.6	13. 5	19.3	1.8	9.1	100.0	84. 9	24. 2	74.8	13. 8	14.7	23. 4	4.3	7.0
13	100. 6	83. 7	29. 4	75. 8	19. 3	18.1	19.3	3.4	10. 9	100. 0	86. 1	34. 2	75. 7	20. 2	21.6	26. 4	4.8	9. 9
14	100. 0	86. 7	41. 5	78. 5	26. 7	22.5	24.7	5.3	12.3	100. 0	88. 5	44. 1	79.8	24.8	22.9	35. 4	7.3	10. 3
15	100.0	90. 5	53. 5	80, 2	24.5	23, 8	44.7	15. 7	13, 5	100.0	92. 2	60. 4	78. 8	29. 7	27. 9	45. 6	15. 2	8.8
16	100, 0	89. 2	58. 5	78. 5	32.3	25, 4	48. 5	15. 4	10.8	100. 0	93, 8	66. 7	82. 1	30. 8	29. 7	60. 0	26. 1	8. 2
17	100. 0	94. 4	70. 4	80. 3	32.4	29. 6	60, 6	39. 4	9. 9	100.0	94.5	75. 0	82.0	25. 8	39.8	74. 2	35. 1	7.8
18	100. 0	100. 0	86. 1	83. 3	41. 7	41.7	80. 5	44. 4	8.3	100. 0	98. 8	82. 1	83. 3	30. 9	41.7	75. 0	38. 1	4.8
	100.0									100. 0								4.0

PERMANENT TEETH

In contrast to the graphs for temporary teeth, in which more boys than girls had caries, a higher percentage of girls than boys have one or more permanent teeth decayed, missing, or filled in each age group excepting the last three. (Table 3, fig. 4.) As suggested in the preceding section, it may be that girls lose their temporary teeth somewhat earlier than boys, and consequently their permanent teeth erupt sooner and are exposed to caries over a longer period. The difference is more marked after eight years. About the same percentage of boys and girls between 6 and 10 years of age had five or more permanent teeth decayed, missing, or filled. Among the older children, excepting those of the last two age groups, the percentage of girls was higher than the percentage of boys at each age. The percentage of girls having one or more permanent teeth decayed and unfilled tends to be higher than the percentage of boys. Practically the same percentages of boys and girls had five or more unfilled carious permanent permanent teeth decayed and unfilled tends to be higher than the percentage of boys.

nent teeth at each age except after 16, when the percentage of boys is higher.

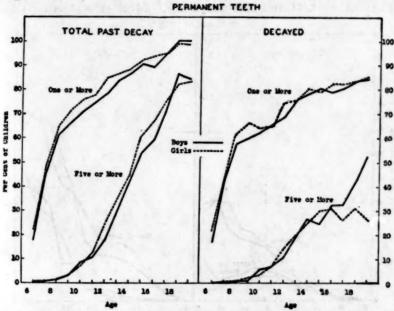


FIGURE 4.—Prevalence of total past decay and untreated caries in permanent teeth of boys and girls at successive years of age

Table 4.—Condition of permanent teeth of boys and girls in 3-year-age groups from 6 to 17 years

Age and sex	Total num- ber of chil- dren	Per cent having decayed, missing, or filled					1	Per cen	t havi	Per cent having missing				
		1 or more	3 or more	5 or more	7 or more	9 or more	1 or more	3 or more	5 or more	7 or more	9 or more	1 or more	3 or more	5 or more
BOYS				34-1		1							101	
6 to 8	1, 548 2, 326 1, 654 474	43.3 70.7 82.3 90.7	17. 4 43. 0 58. 7 76. 8	0.8 7.7 27.6 57.4	0.1 1.9 12.4 38.4	0.1 .6 5.3 23.2	3.6 14.8 20.6 48.1	0.7 5.8 9.2 30.6	0.3 1.0 3.2 19.2	0.1 .3 1.0 11.6	0. 1 . 7 8. 7	0. 5 5. 4 17. 4 25. 1	0.1 .3 1.6 3.6	0.3
6 to 8	1, 603 2, 363 1, 657 606	46. 7 75. 2 86. 1 93. 2	21. 4 46. 8 62. 0 83. 0	.8 7.9 32.2 65.5	2.5 15.8 45.4	.1 .8 6.6 26.1	3.6 19.9 27.1 56.3	1.3 7.6 13.7 38.1	1.1 5.1 22.9	.1 .3 2.2 11.0	.1 .8 5.9	. 9 7. 4 18. 9 31. 0	.4 2.3 6.6	:

About the same proportion of boys and girls have one or more permanent teeth nearly destroyed by caries (remaining roots) up to the 12-year group. (Fig. 5.) Among all the older children the percentage of boys is considerably higher than the percentage of girls. At nearly every age a larger percentage of girls than boys have one or more permanent teeth filled. The proportions are practically the same for the two sexes among children from 6 to 8 years of age. The

percentages of girls having five or more permanent teeth filled are somewhat higher than the corresponding percentages of boys among children between 11 and 17 years of age. More girls than boys have

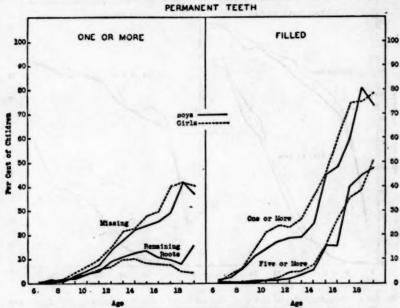


FIGURE 5.—Prevalence of markedly decayed, missing, and filled permanent teeth among boys and girls at successive years of age

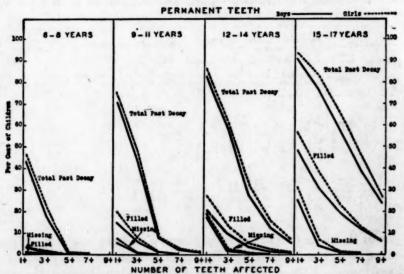


FIGURE 6.—Extent of total past decay, fillings, and extractions of permanent teeth of boys and girls in 3-year age groups

lost at least one permanent tooth except among the 6 and 7 year old children.

In Figure 6 and Table 4 the condition of the permanent teeth of the boys and girls in 3-year-age groups is shown.

Among the 6 to 8 year old children a slightly higher percentage of girls than boys had permanent teeth decayed, missing, or filled. Few children in this or in the 9 to 11 year group had five or more permanent teeth affected, but the percentages are practically the same among boys and girls in the two oldest groups, a larger proportion of girls than of boys was affected. Among the 6 to 8 year old children few had fillings in permanent teeth, and the percentages of boys and girls are practically the same. Among the older children the percentage of girls is, on the whole, appreciably higher than that of the boys.

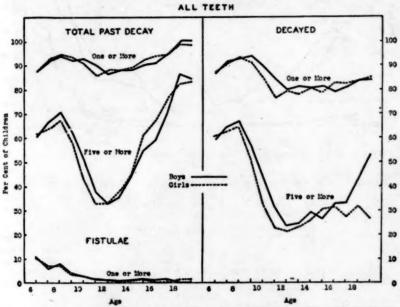


FIGURE 7.—Prevalence of total past decay, untreated carles, and fistulae in teeth of boys and girls at successive years of age

More girls than boys had had permanent teeth extracted. The difference is most pronounced among the 15 to 17 year old children.

ALL TEETH

The graphs based on all teeth are similar to the graphs for temporary teeth in the early age groups and to those for permanent teeth among the older children. (Fig. 8, Table 5.) There is no striking difference between the percentages of boys and girls having one or more teeth decayed, missing, or filled. When children with five or more teeth decayed, missing, or filled are considered, the percentages are higher among boys in the early-age groups and among girls in the later age groups.

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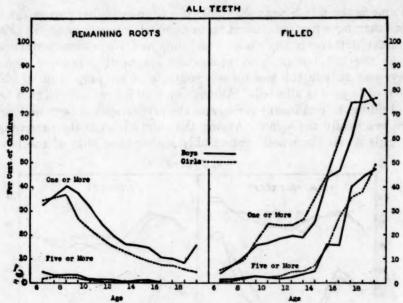


FIGURE 8.—Prevalence of marked caries and fillings in teeth of boys and girls at successive years of age

TABLE 5.—Condition of teeth of boys and girls of each age from 6 to 19 years

	Total chil- dren	Boys										
Age		Decayed, miss- ing, or filled		Decayed		Remaining roots		Filled		Fis- tulæ,		
		1 or more	5 or more	1 or more	5 or more	1 or more	5 or more	1 or more	5 or more	1 or more		
	1			NUMB	ER		235					
6	451 541 556 673 804 849 659 595 400 273 130 71 36	396 498 523 621 747 764 570 525 353 246 118 67 36	274 360 392 417 407 317 214 209 178 148 76 50 31	389 494 514 630 717 713 623 480 321 221 102 57 30 16	267 348 370 381 352 264 152 143 115 71 42 23 16	148 199 225 253 255 208 131 97 63 40 14 7	20 16 17 21 9 8 6 1 3 3 0 0	20 40 59 109 137 160 130 116 100 121 61 43 29 14	4 7 11 17 16 16 14 20 20 43 20 28 16	47 82 44 25 21 15 8 3 3 4 1 1 1 0 0		
			F	ER CE	NT	- 111						
6	100. 0 100. 0	87. 8 92. 1 94. 1 92. 3 92. 9 90. 0 86. 5 88. 2 88. 3 90. 1 90. 8 94. 4 100. 0	60. 7 66. 5 70. 5 62. 0 50. 6 37. 3 82. 5 35. 1 44. 5 54. 2 58. 5 70. 4 86. 1 84. 2	86. 3 91. 3 92. 4 93. 6 89. 2 84. 0 79. 4 80. 7 80. 3 80. 9 78. 5 80. 3 83. 3 84. 2	59. 2 64. 3 66. 5 56. 6 43. 8 31. 1 24. 0 28. 7 26. 0 32. 3 32. 3 41. 7 52. 6	32. 8 36. 8 40. 5 37. 6 31. 7 24. 5 19. 9 16. 3 15. 7 14. 7 10. 8 9. 9 8. 3 15. 8	29 3.1 3.1 1.1 .9 .2 .2 1.1	4. 4 7. 4 10. 6 16. 2 17. 0 18. 8 19. 5 25. 0 44. 3 46. 0 60. 5 73. 7	0.9 1.3 2.0 2.5 2.0 1.9 2.1 3.4 5.0 15.7 15.4 39.4 47.4	10.4 5.9 7.9 3.7 2.6 1.8 1.2 .5 .7 1.5 .8 1.4		

TABLE 5 .- Condition of teeth of boys and girls of each age from 6 to 19 years-Con.

		Girls										
Age	Total chil- dren	Decayed, miss- ing, or filled		Decayed		Rem	aining ots	Filled		Fis- tulæ,		
		1 or more	5 or more	1 or more	5 or more	1 or more	5 or more	1 or more	5 or more	1 or more		
				NUMB	ER			l i				
6	462 581 560 662 848 853 702 588 387 283 195 128 84 65	405 537 529 617 768 733 620 519 327 261 183 121 83 64	283 370 377 382 359 276 228 218 163 172 130 97 69 54	400 528 520 602 718 652 556 458 294 223 160 105 70 55	279 363 361 333 277 190 147 132 92 84 60 34 26 17	100 211 207 178 193 157 108 78 40 26 15 9	9 14 11 112 6 8 2 0 0 1 1 0 0	24 43 56 115 209 209 169 130 128 118 96 63 50	2 4 9 17 19 22 30 28 27 43 52 45 32	41 46 41 22 20 12 8		
			1	PER CE	ENT							
6	100. 0 100. 0	87. 7 92. 4 94. 5 93. 2 90. 6 85. 9 88. 3 88. 3 89. 1 92. 2 93. 8 94. 5	61. 3 63. 7 67. 7 42. 3 32. 4 32. 5 37. 1 44. 4 60. 8 66. 7 76. 8 82. 1 83. 1	86. 6 90. 9 92. 9 90. 9 84. 7 76. 4 77. 2 77. 9 80. 1 78. 8 82. 1 82. 0 83. 3 84. 6	60. 4 62. 5 64. 5 50. 3 32. 7 22. 3 20. 9 22. 4 25. 1 29. 7 30. 8 26. 6 30. 9 26. 1	34. 6 36. 3 37. 9 26. 9 22. 7 18. 4 15. 4 13. 3 10. 9 9. 2 7. 7 7. 0 5. 9	1.9 2.4 2.0 1.8 .7 .3 .3	5. 2 7. 4 10. 0 17. 4 24. 6 24. 5 24. 1 26. 5 35. 4 45. 2 60. 5 75. 0 76. 9	0. 4 .7 1. 6 2. 6 2. 2 2. 6 4. 3 15. 2 20. 7 35. 1 38. 1 49. 2	10. 2 6. 9 7. 3 3. 5 2. 3 1. 4 . 7 . 3 8 1. 1		

In most groups under 12 years of age higher percentages of boys than of girls had unfilled carious teeth. Among children 12 years of age and over, practically the same proportion of boys and girls were so affected. In nearly every age group a higher percentage of boys than girls had five or more unfilled carious teeth.

Practically the same proportions of boys and girls in each age group had teeth with fistulæ.

The proportions of boys and girls in 3-year-age groups having teeth decayed, missing, or filled are shown in Figure 9 and Table 6.

Table 6.—Condition of teeth of boys and of girls in 3-year-age groups from 6 to 17 years

	Total num-	Per cent having decayed, missing, or filled						Per cent having filled				
Age and sex	ber of chil- dren	1 or more	3 or more	5 or more	7 or more	9 or more	1 or more	3 or more	5 or more	7 or more	9 or more	
BOYS			7 - 7	9 7 97	- 1							
6 to 8	1, 548	91. 5	80.8	66. 3	48.8	30, 8	7.7	3.5	1.4	0.6	0.	
9 to 11	2, 326	91. 7 87. 5	73. 5	49.1	28.8	14. 2	17. 5 20. 9	7. 4 9. 3	2.1 3.3	.7	1	
12 to 14	1, 654	90.9	64. 6 77. 0	36.3 57.8	15. 7 38. 4	7.1 23.4	47.5	30. 4	19. 2	11.6	5.	
GIRLS			1		. 16					100		
6 to 8	1, 603	91.8	79.3	64.3	48.8	30.1	7.7	3.3	9	.4	1	
9 to 11	2, 363	89.6	70.1	43.0	21. 9	9.9	22.6	9. 2	2.5	.6		
12 to 14	1, 657 606	88. 5 93. 2	66. 4 83. 0	36. 8 65. 8	18. 1 45. 9	7. 5 26. 2	27. 5 56. 4	13. 8 38. 3	5. 1 23. 1	2.2	8.5	

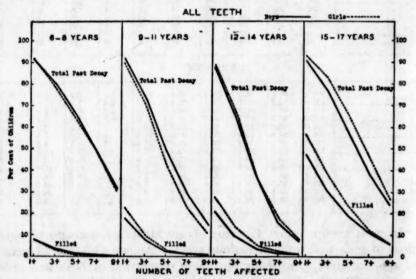


FIGURE 9.—Extent of total past decay and fillings in teeth of boys and girls in 3-year age groups

From 6 to 8 years the incidence of past and present decay is practically the same for both sexes. However, among 9 to 11 year old children a larger percentage of boys than of girls have teeth that are or have been carious. The ratio of boys to girls becomes somewhat greater when children having larger numbers of affected teeth are considered. In the group from 12 to 14 years the percentages are again very nearly alike for both sexes. From 15 to 17 years the proportion of girls affected is higher.

A marked contrast is evident in the graphs showing the percentages of boys and girls having fillings. Between 6 and 8 years of age the percentages are much the same for both sexes. Among the older children, however, a considerably greater proportion of girls than of

boys have one or more filled teeth. The ratio gradually lessens as children having larger numbers of filled teeth are considered. In the last group practically the same percentages of boys and girls had seven or more and nine or more teeth which had been filled.

SUMMARY

TEMPORARY TEETH

At each age except among the very youngest children more boys than girls have carious or filled temporary teeth. (Fig. 1.)

A considerably higher percentage of boys than of girls in most age groups had markedly decayed temporary teeth. (Fig. 2.)

There was no sex difference in the prevalence of temporary teeth with fistulæ. (Fig. 2.)

PERMANENT TEETH

On the whole, more girls than boys had permanent teeth decayed, missing, or filled. (Fig. 4.)

The prevalence of unfilled carious permanent teeth was practically the same among boys and girls. (Fig. 4.)

A higher proportion of girls than of boys had had permanent teeth extracted. (Fig. 5.)

Among children 12 years of age and older, more boys than girls had markedly decayed permanent teeth. (Fig. 5.)

In most age groups, a considerably higher percentage of girls than of boys had had one or more permanent teeth filled. (Fig. 5.)

About the same percentage of boys and girls had five or more filled permanent teeth. (Fig. 5.)

ALL TEETH

A greater proportion of boys among the younger children and of girls among the older children had decayed, missing, or filled teeth. (Fig. 7.)

Among the younger children, more boys than girls had unfilled carious teeth. Among older children, there was little difference between the sexes, except that a considerably higher number of boys than girls in the last three age groups had five or more unfilled carious teeth. (Fig. 7.)

The prevalence of teeth with fistulæ was practically the same among boys and girls. (Fig. 7.)

A very much higher percentage of boys than of girls had markedly decayed teeth. (Fig. 8.)

On the whole, more girls than boys had teeth with fillings. (Fig. 8.)

A TRACHOMA SURVEY IN THE RIO GRANDE VALLEY OF TEXAS

By C. E. RICE, Passed Assistant Surgeon, United States Public Health Service

Because of the repeated reports of trachoma in considerable amount in the citrus region of the Rio Grande Valley in Texas, the assistance of the United States Public Health Service was requested by the Texas State Department of Health in making a survey to determine the actual prevalence of trachoma in this region. The survey was begun on March 5, 1931, by representatives of the Public Health Service and State department of health jointly.

SCOPE OF SURVEY

During a period of six weeks there were examined 11,054 school children in attendance at 76 schools in Cameron, Willacy, Hidalgo, and Starr Counties in southeastern Texas. In addition, visits were made to 25 homes of Mexicans living in and around Brownsville. The homes selected for visits were those from which children in school showed marked granular involvement of the conjunctiva of the eye-This part of the survey was difficult, owing to fears aroused lids. because of inability to understand what was desired and also because some of the homes visited were entirely deserted at the time on account of the absence of the families en masse at work in the fields.

PLAN OF STUDY

The preliminary work of finding the suspicious cases was done by a nurse specially trained in trachoma work, assisted by public health nurses, during the period March 5 to April 14, 1931. Diagnostic clinics, during the period April 16-22, 1931, were held at certain points by medical experts for the examination of each suspected case thus uncovered.

RESULTS

In all, 44 cases of trachoma were uncovered, and in 40 of these the disease had apparently been contracted in or in the vicinity of the Rio Grande Valley. Eight of the 40 were arrested cases without sufficient corneal involvement to cause any loss of vision and had never been treated. A Mexican janitor in one large city school had the most active case seen in adults. This particular case showed the characteristic purplish coloration in the upper cul-de-sac, with some papillary overgrowth and marked invasion of the corneas by pannus.

Suspected cases found by the nurses were examined at 11 diagnostic clinics held in Cameron and Hidalgo Counties. In those clinics 119 adults and 1,747 children between the ages of 1 and 20 were

examined with the results shown in Table 1.

TABLE 1 .- Results of examination of suspected cases at 11 diagnostic clinics

Condition	Adults	Children	Condition	Adults	Children
Trachoma	7 3	37 72 625	Conjunctivitis Negative	100	141 872
FolliculosisCataract	3	625	Total	119	1, 747

Because of the predominance of folliculosis, these cases were studied from the standpoint of age distribution and location.

Age distribution

the new courses and the second pro-	Up to	5 to 9	9 to 14	14 to 20	Adults
Age distribution of total number examined ¹	43 12	619 439	919 163	113 6	119

Ages not given in 53 cases.

It is very evident that folliculosis was largely confined to children in the primary grades and was almost negative in the higher grades. The following figures show the high percentage of folliculosis found in the individual schools:

1.	La Feria School (largely attended by Mexican children):	
	Total examined	201
	Folliculosis	122
	Percentage of folliculosis	67
2.	Santa Maria School (largely attended by Mexican children):	
	Total examined	164
	Folliculosis	90
	Percentage of folliculosis	54. 9
3.	Rio Hondo School (largely attended by American children):	
	Total examined	418
	Folliculosis	109
	Percentage of folliculosis	26. 1
	- vivolingo vi iomidadossi i i i i i i i i i i i i i i i i i i	

There was observed a high percentage of folliculosis among the children examined in the other schools.

THERAPEUTIC DIAGNOSIS

The children attending the Santa Maria school in Cameron County, presenting evidence of follicular involvement of the eyelids, were placed under treatment in which a 2 per cent solution of mercurochrome or a one-fourth per cent solution of zinc sulphate was used. This treatment was administered by the teachers and older students. A reexamination of 48 pupils of this school treated in the above manner for folliculosis over a period of five weeks showed that 33, or 69 per cent, had become clinically negative. Considering the very irregular attendance of many Mexican children, because they are required by their parents to work in the fields, these results may be considered most excellent.

As these children had the same type of conjunctival involvement that is found to be so prevalent in the Rio Grande Valley, the prompt clearing up of the condition under mild astringents and antiseptics is evidence in favor of the nontrachomatous nature of their lid pathology.

METHOD OF EXAMINATION

All those presenting themselves at the diagnostic clinics had the eyelids of both eyes well everted so as to expose a generous portion of the upper and lower cul-de-sac. The observation of the conjunctiva thus exposed was made in natural light. In 90 per cent of all individuals the hand slit-lamp was used for examining the cornea for opacities and for pannus. The early commencement of pannus can not be seen without some magnification and focal light.

PATHOLOGY

Pannus was noted in all of the few cases of trachoma examined. In the arrested cases, scar tissue was quite evident in the cul-de-sac, more in the upper than the lower, and the pannus was ghostlike or markedly attenuated. The papillary type was more predominant.

In the many cases of folliculosis the granules were usually large and numerous, and on everting the upper lid these granules would often roll out to the extent of obscuring the cornea. On close observation, blood vessels could be made out at the base of the granules. The lids were quite pliable. In the lower lids the granules were also numerous; but on stretching the conjunctiva to separate the granules, blood vessels could usually be made out. On observing the corneas in these cases with the slit lamp there was not the least suspicion of blood vessel penetration of corneal tissue, and the corneas were always smooth and clear.

In the total examined there were only two cases of corneal opacity, both caused by trachoma and both in adults—one from Minnesota and the other from central east Texas. Only one case of lid distortion, due to trachoma, was observed—in an adult from the vicinity of the Oklahoma border.

CONCLUSIONS

- 1. Trachoma at the present time is but a limited public health problem in the citrus belt of the Rio Grande Valley, both among Americans and Mexicans. It is believed that the high living standards among the American population of this region precludes the possibility of trachoma ever becoming much of a problem in this region.
- 2. The instillation of zinc sulphate or mercurochrome solution in the conjunctival sac of children showing follicular involvement apparently clears up most of such conditions in this region. However, to be most effective this treatment should be supplemented by

instruction in personal hygiene, including cleanliness and the use of individual towels. It is not believed necessary to keep from school the children receiving the above treatment.

3. It is recommended that cases that show but little improvement after two months of treatment should be grattaged, including both upper and lower lids, preferably under local anesthesia. This should be followed for some time with 2 per cent silver nitrate solution applied to the everted lids and then irrigated off.

4. The general population and the physicians of this region are greatly interested in school health supervision, and their full cooperation in any campaign for the improvement of health and sanitation in

schools may be taken for granted.

COURT DECISION RELATING TO PUBLIC HEALTH

City held not liable to cemetery owners for damages resulting from ordinance forbidding burials within city.—(California District Court of Appeal, Second District; Hand et al. v. City of Whittier, 4 P. (2d) 273; decided Oct. 22, 1931.) The people of the city of Whittier, by direct vote, adopted an ordinance declaring that the burial of the dead within the city was dangerous to life and detrimental to the public health and forbidding the interment of dead bodies in any cemetery within the corporate limits. The plaintiffs, who were the owners of a small cemetery located in a thinly populated portion of the city, brought an action against the city for damages caused by "said ordinance and the unreasonable, arbitrary caprice and unrestrained will of the municipality and the refusal of the officers thereof to issue permits for burials." The judgment of the trial court was in favor of the city, and, in affirming this judgment, the appellate court said:

It is undisputed by appellants that the passage of the ordinance in question was an act by the city of Whittier in the exercise of a governmental function. In such circumstances, in the absence of any statute to the contrary, the principle of law is well established that an action for damages against the city will not lie. (18 Cal. Jur. 1091, 19 R. C. L. 1083.)

DEATHS DURING WEEK ENDED DECEMBER 12, 1931

Summary of information received by telegraph from industrial insurance companies for the week ended December 12, 1931, and corresponding week of 1939. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended Dec. 12, 1931	Corresponding week, 1933
Policies in force	74, 343, 907	75, 006, 785
Number of death claims	13, 176	14, 526
Death claims per 1,000 policies in force, annual rate.	9. 2	10. 1
Death claims per 1,000 policies, first 50 weeks of		
year, annual rate	9. 6	9. 6

Deaths 1 from all causes in certain large cities of the United States during the week ended December 12, 1931; infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census]

lie with the lie of	Wee	Week ended Dec. 12, 1931 Corresponding week, 1930						Death rate 2 for the first 50 weeks		
City	Total deaths	Death rate 2	Deaths under 1 year	Infant mor- tality rate	Death rate 2	Deaths under 1 year	1931	1930		
Total (82 cities)	7,709	11.3	621	149	11.7	697	11.8	11.		
Akron	35	6.9	2	20	9.4	6	7.5	7.		
Albany	31	12.5	3	60	15.5	3	14. 0 14. 9	14.		
Atlanta	56 26	10. 5 7. 4	6	59 75	16. 5 11. 8	11	11.5	15.		
WhiteColored	30	16.8	5	29	25. 9	3 8	21.6	11. 23.		
Baltimore * *	195	12.5	17	59	12. 2	12	14.1	14.		
White	139	10.9	8	36	11.6	10	12.9	12.		
Colored	56	-19.9	9	144	15.3	2	19.9	19.		
Birmingham •	55	10.6	4	40	9. 2 7. 1	4	13.1	13.		
White	22	6.9	4	68	7.1	1	10.0	10.		
Colored	33	16.8	0	0	12.5	3	18.0	19.		
Boston	210 25	13. 9 8. 9	20	58 50	14.1	18	14.1 11.0	14. 10.		
BridgeportBuffalo	153	13.7	16	72	11.1	14	12.8	12.		
ambridge	21	9.6	2	41	11.9	3	12.0	11.		
Camden	21 40	17.5	5	87	12.3	5	14.2	13.		
Canton	18	8.8	2	49	8.4	2	9.9	9.		
hicago !	688	10.4	64	57	10,8	61	10.5	10.		
incinnati	130	14.8	14	84	14.3	7	15.7	15.		
leveland	140	8.0	12	35	10.1	15	11.0	11.		
olumbus Dallas ⁶	63 54	11.1	2	19	15.4	9	13.5	15.		
White	42	10. 3 9. 7	9		10. 5	7 6	11. 1 9. 8	11.		
Colored	12	13.2	5 2 3 3	*******	12.7	i	17. 3	16.		
Dayton	37	8.3	3	43	10.1	i	10. 5	9.		
Denver	37 70	12. 5	1	10	16.8	3	13.8	14.		
Des Moines	37 238	13.4	3	57	10.6	3	11.0	11.		
Detroit	238	7. 5	27	43	8.5	46	8.1	9.		
Ouluth	19	9. 7 13. 4	0	81	14.4	9	11. 2 15. 1	11.		
ria	· 27	14. 2	8 6 0	0	8.1	2	10.3	11.		
'all River ! ?	22	10.0	3	71	8.6	ō	11.1	11.		
'lint	22 12 32	3.8	0	0	5. 6	5	6.8	9.		
orth Worth	32		2		10.5	3	10.5	10.		
White	25	9.3	1 1 3		6.8	2	10.1	10.		
Colored	7	13.4	1		29. 6	1	12.3	13.		
rand Rapids	27 48	8.1	4	46	11. 7 13. 6	3 10	9.0	10. 12.		
White	32	7.4	3		11.8	5	10.1	10.		
Colored	16	10.1	3		18.6	8	13.4	16.		
ndianapolis 6	81	11.4	8	61	10.6	5	13.6	14.		
	71	11.4	8	70	9, 9	1	13. 1	13		
Colored	10	11.5	0	0	15.3		17.0	21.		
ansas City, Kans.	65 30	10.6 12.7	3	27 88	9.0	6	11. 2 12. 6	11.		
	23	12.1	4 3	80	13. 1	1	11.9	11		
Colored	7	15. 5	1	127	6.8	ō	15.5	14		
Colored	105	13. 4	6	48	12.6	3	12.9	13.		
	37	17.7	2	43	14.7	1	12.6	13.		
White	28	16.0	2 0	49	12.9	1	11.8	12		
Colored	9	26.4		0	24. 1	0	16.5	18.		
ong Beachos Angeles	26 363	8.9	1 22	25 67	14.5	3 28	9. 8 10. 7	10.		
ouisville	78	14. 4 13. 2	23	55	8.3	3	13.7	13.		
White	67	13.4	4	42	6.6	3	12.3	12		
Colored	11	12.0	4 2	143	17. 6	0	21. 2	21.		
owell 7	30	15.6	1	26	12.0	1	12.8	13.		
ynn Iemphis ⁶	25	12.7	3 13 7	86	15. 3	2	9.4	10.		
White	77	15. 5	13	138	14.8	9	16.4	16. 13.		
Colored	34 43	11. 1	6	118 174	15.6	5	21. 4	22		
fiami 6	24	22.7 11.1	3	77	13. 2	1	11.6	11.		
White	24 20	12.0	8 3 0	0	11. 5	. 0	10.8	0.		
Colored		8.2	3	272	18.6	. 0	14.5	15.		

Deaths¹ from all causes in certain large cities of the United States during the week ended December 12, 1931; infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)—Continued

Minneapolis. 96 Nashville * 56 White * 35 Colored 21 New Bedford * 24 New Haven 39 New Orleans * 136 White 78 Colored 58 New York 1,392 Bronx Borough 215 Brooklyn Borough 490 Manhattan Borough 514 Queens Borough 140 Richmond Borough 33 Newark, N. J. 95 Oakland 69 Okiahoma City 38 Omaha. 50 Paterson 36 Peoria. 22 Poriand, Oreg 88 Providence. 81 Richmond * 33 White 33 Colored 20 Rochester 60 81 Lake City * 31 8an Diego 43 8an Francisco 173	7. 7 10. 6 18. 8 16. 2 25. 6 6 11. 1 12. 5 15. 2 22. 5 10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 0 13. 5 13. 1 11. 5 13. 1 14. 1 16. 6 6 15. 0	Deaths under 1 year 1 year 1 year 1 year 1 1 1 1 1 1 3 5 5 8 8 8 8 1 4 1 1 1 1 2 2 5 5 9 9 7 7 5 4 4 1 1 2 9 1 1 6 3 7 5 5	Infant mortality rate 1 36 39 166 99 377 377 378 42 132 38 40 33 345 25 88 277 113 96 87 86 88 26 87 86 87 86 87 87 86 87 87 86 87 78 88 87 78 88 87 78 88 87 78 88 87 78 88 8	Death rate 2 9. 6 13. 4 14. 2 19. 4 8 8 9 3 17. 2 13. 8 25. 7 10. 6 7. 3 9. 5 16. 3 7. 4 11. 7 11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4	Deaths under 1 year 1 year 111 14 3 3 3 4 5 6 11 7 7 119 12 2 33 3 54 4 4 2 2 1 1 7 2 5 5 48 19 3	9. 1 10. 9 16. 7 12. 0 12. 0 12. 0 12. 5 16. 5 13. 5 14. 1 11. 0 1. 1 16. 5 7. 1 11. 4 10. 7 10. 6 13. 8 13. 2 12. 8 13. 2 14. 8 15. 16. 8 16. 8 17. 16. 8 1	1930 9, 6 10, 13, 6 13, 6 12, 14, 1 14, 1 14, 1 16, 7, 8 9, 8 17, 8 18, 1 19, 1 10, 1 11, 6 11, 6 11, 6 11, 6 11, 6 11, 6 11, 6 11, 6 11, 6 11, 7, 8 11, 8
Minneapolis 96 Nashville 56 Nashville 56 White 35 Colored 21 New Bedford 24 New Haven 39 New Orleans 136 White 78 Colored 88 New York 1, 392 Bronx Borough 215 Brooklyn Borough 440 Manhattan Borough 514 Queens Borough 140 Richmond Borough 33 Newark N 96 Oakland 66 Oklahoma City 38 Omaha 50 Paterson 36 Peoria 22 Philadelphia 434 Pittsburgh 170 Portland, Oreg 88 Providence 81 Richmond 33 White 33 Colored 20 St. Louis 187 San Antonio 58 San Diego 43 San Francisco 173 San Antonio 58 San Prancisco 173 San Senerville 83 Somerville 83 Somerville 83 Somerville 83 Somerville 83 Somerville 83 Somerville 84 South Bend 13 Spokane 34 Springfield, Mass 32	10. 6 18. 8 16. 2 25. 6 11. 1 12. 5 15. 2 22. 5 10. 2 8. 7 14. 8 6. 3 10. 5 11. 1 12. 0 13. 5 11. 1 12. 1 12. 1 12. 1 13. 1 14. 1 16. 1	6 111 11 13 5 8 8 88 88 14 31 34 77 22 5 9 7 7 7 8 4 1 1 39 16 3	399 166 999 3777 226 5 15 15 15 15 15 15 15 15 15 15 15 15 1	13. 4 14. 2 12. 2 19. 4 8. 8 9. 3 17. 2 13. 8 25. 7 10. 6 7. 3 7. 4 12. 1 11. 7 11. 5 8. 3 13. 8 12. 8 12. 8 13. 8 14. 8 15. 8 16. 8	14 3 3 . 0 0 2 3 3 18 8 11 7 7 119 12 2 33 54 4 4 4 4 2 1 1 7 7 2 5 5 48 19 3	10. 7 14. 4 23. 0 12. 0 12. 5 16. 5 24. 1 11. 0 16. 8 7. 1 11. 4 11. 4 11. 4 10. 6 13. 2 12. 8 14. 5 12. 8 13. 1 14. 1 15. 1 16. 8 17. 1 18. 1 19. 6 19. 1 19. 1 1	10. 16. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19
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White 6	25. 6 11. 1 12. 5 15. 2 22. 22. 5 10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 0 13. 5 11. 1 11. 1 11. 1 16. 6	6 1 1 13 5 8 8 8 8 14 31 34 7 7 2 2 5 7 7 7 5 4 1 1 39 1 16 3 7 5	377 26 15 15 15 15 15 15 15 15 15 15 15 15 15	19, 4 8, 8 9, 3 17, 2 13, 8 17, 2 10, 6 7, 3 9, 5 16, 3 7, 4 12, 1 11, 7 10, 0 16, 5 8, 3 13, 8 12, 3 15, 0 11, 4	0 2 3 18 11 7 119 12 2 33 54 16 4 4 4 4 2 1 7 7 2 5 5 48 8 9 9	23. 0 12. 0 12. 5 16. 5 13. 5 24. 1 11. 0 1 16. 1 7, 1 13. 4 110. 7 10. 6 13. 8 13. 2 12. 8 14. 6	23. 11. 12. 17. 14. 24. 10. 7. 7. 13. 12. 11. 10. 12. 12. 12. 12. 13.
Colored	25. 6 11. 1 12. 5 15. 2 22. 22. 5 10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 0 13. 5 11. 1 11. 1 11. 1 16. 6	6 1 1 13 5 8 8 8 8 14 31 34 7 7 2 2 5 7 7 7 5 4 1 1 39 1 16 3 7 5	377 26 15 15 15 15 15 15 15 15 15 15 15 15 15	19, 4 8, 8 9, 3 17, 2 13, 8 17, 2 10, 6 7, 3 9, 5 16, 3 7, 4 12, 1 11, 7 10, 0 16, 5 8, 3 13, 8 12, 3 15, 0 11, 4	0 2 3 18 11 7 119 12 2 33 54 16 4 4 4 4 2 1 7 7 2 5 5 48 8 9 9	23. 0 12. 0 12. 5 16. 5 13. 5 24. 1 11. 0 1 16. 1 7, 1 13. 4 110. 7 10. 6 13. 8 13. 2 12. 8 14. 6	23. 11. 12. 17. 14. 24. 10. 7. 7. 13. 12. 11. 10. 12. 12. 12. 12. 13.
New Haven 38 New Orleans * 136 White 78 Colored 58 New York 1, 392 Brook Borough 215 Brooklyn Borough 490 Manhattan Borough 514 Queens Borough 140 Richmond Borough 33 Newark, N. J. 95 Oakland 60 Oakland 60 Oklahoma City 38 Omaha 50 Paterson 36 Peoria 22 Philadelphia 434 Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond * 53 White 33 Colored 20 Rochester 60 81 Lucis 187 82 Antonio 55 83an Diego 43 8an Francisco 173 8chenectady 23	11. 1 12. 5 15. 2 12. 2 22. 5 10. 2 10. 5 11. 5 10. 1 12. 3 10. 1 12. 3 10. 1 11. 1 11. 1 11. 1 11. 1 16. 6	1 13 5 8 88 14 31 34 77 2 5 5 9 9 7 7 5 5 4 1 1 39 16 6 3 7 5	26 15 15 42 132 38 40 28 38 38 27 113 96 68 26 57 56	8.8 9.3 17, 22 13.8 25, 7 10.6 7, 3 9, 5 16.3 7, 4 12.1 11.5 10.0 16.5 8.3 13.8 12.3 15.0 11.4 10.7	2 3 3 18 11 7 7 119 12 33 34 16 4 4 2 2 1 7 7 2 5 48 19 3	12 0 12.5 16.5 13.5 24.1 11.0 8.1 11.6 8.1 16.8 7.1 13.4 10.6 13.8 13.2 12.4 12.8 14.3	11. 12. 17. 14. 24. 10. 7. 9. 15. 7. 13. 12. 11. 10. 12. 12. 13.
New Haven 38 New Orleans 4 136 White 78 Colored 58 New York 1,392 Brook Borough 215 Brooklyn Borough 490 Manhattan Borough 514 Queens Borough 140 Richmond Borough 33 Newark, N. J. 95 Oakland 60 Oklahoma City 38 Omaha 50 Paterson 36 Peoria 23 Philadelphia 434 Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond 6 33 White 33 Colored 20 Rochester 60 81 Louis 187 82 Antonio 55 83 An Francisco 173 83 Sehenectady 23 80 Somerville 83 80 Both Bend 34	12.5 15.2 12.2 22.5 10.2 8.4 9.7 14.8 6.3 10.5 11.1 12.0 13.5 11.1 11.5 13.1 14.1	1 13 8 8 88 14 31 34 7 7 7 8 8 8 19 9 7 7 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 73 42 132 38 40 33 45 28 27 113 96 68 26 57 56 68	9.3 17.2 13.8 25.7 10.6 7.3 9.5 16.3 7.4 12.1 11.7 11.5 10.0 16.5 8.3 13.8 12.3 15.0 11.4 10.7	3 18 11 7 119 12 23 33 54 16 4 4 4 2 1 7 7 2 2 5 5 4 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	12.5 16.5 24.1 11.0 8.1 16.5 7.1 13.4 11.4 10.6 13.8 13.2 12.8 14.3	12. 17. 14. 24. 10. 7. 9. 15. 7. 13. 12. 11. 10. 11. 12. 12. 12. 13.
New Orleans 136	15. 2 12. 2 22. 5 10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 0 13. 5 11. 5 13. 1 14. 1 16. 6	13 8 88 88 14 31 34 7 2 5 9 7 5 4 1 1 39 16 6 3 7 5	73 42 132 138 40 38 45 28 88 27 113 98 68 26 57 56 87 64	17, 2 13, 8 25, 7 10, 6 7, 3 9, 5 16, 3 7, 4 12, 1 11, 7 11, 7 11, 7 10, 0 16, 5 8, 3 12, 3 15, 0 11, 4	18 11 7 719 12 33 54 16 4 4 4 2 1 7 7 2 8 8 8 8 19 19 19 19 19 19 19 19 19 19 19 19 19	16.5 13.5 24.1 11.0 8.1 16.5 7.1 13.4 10.6 13.8 13.2 12.8 14.6	17. 14. 24. 10. 7. 9. 15. 7. 13. 12. 11. 10. 13.
White	12. 2 22. 5 10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 0 13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	8 88 14 31 34 4 7 2 2 5 9 7 7 5 4 1 1 39 16 3 7 5	42 132 38 40 33 45 25 38 27 113 86 58 68 26 57 56 64	13. 8 25. 7 10. 6 7. 3 9. 5 16. 3 7. 4 12. 1 11. 7 11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4	11 7 119 12 33 54 16 4 4 4 2 1 7 7 2 5 48 19	13. 5 24. 1 11. 0 8. 1 10. 1 16. 5 7. 1 13. 4 11. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 6	14. 24. 10. 7. 9. 15. 7. 13. 12. 11. 10. 12. 12. 12. 12.
Colored	22. 5 10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 3 10. 1 12. 0 13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	88 88 31 34 7 2 5 9 7 7 5 4 1 1 39 16 3 3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	132 38 40 33 345 28 38 27 113 96 58 68 57 56	25. 7 10. 6 7. 3 9. 5 16. 3 7. 4 12. 1 11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4	7 119 12 33 54 16 4 4 2 1 7 7 2 5 48 19	24. 1 11. 0 8. 1 16. 5 7. 1 13. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 6	24. 10. 7. 9. 15. 7. 13. 12. 11. 10. 13. 12. 12.
New York 1, 392 Bronx Borough 215 Brooklyn Borough 490 Manhattan Borough 514 Queens Borough 140 Richmond Borough 33 Newark, N. J 95 Oakland 69 Oklahoma City 38 Omaha 60 Peoria 23 Philadelphia 434 Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond 6 33 White 33 Colored 20 Rochester 60 81. Louis 187 82. Louis 187 83. Plego 43 83. Fancisco 173 83. Sehenectady 23 80uth Bend 13 8pokane 34 3pringfield, Mass 32	10. 2 8. 4 9. 7 14. 8 6. 3 10. 5 11. 1 12. 3 10. 1 12. 0 13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	88 14 31 34 7 2 5 9 7 5 4 1 39 16 3 7 5	38 40 33 45 28 38 27 113 96 58 26 57 56 37 64	10. 6 7. 3 9. 5 16. 3 7. 4 12. 1 11. 7 11. 5 10. 0 16. 5 8. 3 8. 3 12. 3 15. 0 11. 7	119 12 33 54 16 4 4 2 1 7 2 5 4 8 19 3	11. 0 8. 1 16. 5 7. 1 13. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 6	10. 7. 9. 15. 7. 13. 12. 11. 10. 13. 12. 12. 12.
Bronx Borough	8.4 9.7 14.8 6.5 11.1 12.3 10.1 12.0 13.5 11.1 11.5 13.1 16.6	14 31 34 7 2 5 9 7 5 4 1 39 16 3 7 5	40 33 45 28 38 27 113 98 58 68 26 57 56 37	7.3 9.5 16.3 7.4 11.7 11.5 10.0 16.5 8.3 13.8 12.3 15.0 11.4	12 33 54 16 4 4 2 1 7 7 2 5 48 19	8. 1 10. 1 16. 5 7. 1 13. 4 11. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 16. 6	7. 9. 15. 7. 13. 12. 11. 10. 13. 12. 12. 12. 12. 13.
Brooklyn Borough 490 Manhattan Borough 514 Queens Borough 140 Richmond Borough 33 Newark, N. J 95 Oakland 69 Oklahoma City 38 Omaha 50 Paterson 36 Peoria 223 Philadelphia 170 Portland, Oreg 88 Providence 81 Richmond 5 33 White 33 Colored 220 Rochester 69 St. Louis 187 St. Paul 46 Salt Lake City 4 31 San Antonio 58 San Diego 43 Seattle 83 Seattle 83 Somerville 50 Sourch 13 Spokane 34 Sporkane 34 Sporkane 34 Sporkane 32 Sportledd, Mass 32	9.7 14.8 6.3 10.5 11.1 12.3 10.1 12.0 13.5 11.1 11.5 13.1 14.1	31 34 7 2 5 9 7 5 4 1 39 16 3 7	33 45 28 38 27 113 98 58 68 26 57 56 37	9. 5 16. 3 7. 4 12. 1 11. 7 11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 11. 4 10. 7	33 54 16 4 4 2 1 7 2 5 48 19 3	10. 1 16. 5 7. 1 13. 4 11. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	9. 15. 7. 13. 12. 11. 10. 13. 12. 12. 12.
Manhattan Borough 514 Queens Borough 140 Richmond Borough 23 Newark, N. J. 95 Oakland 69 Oiklahoma City 38 Omaba 50 Paterson 36 Peoria 23 Philadelphia 434 Pittsburgh 170 Portland, Oreg 88 Providence 81 Richmond 53 White 33 Colored 20 Rochester 69 8t. Louis 187 8t. Paul 46 Salt Lake City 31 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 South Bend 13 Spokane 34 Springfield, Mass 32	14.8 6.3 10.5 11.1 12.3 10.1 12.0 13.5 11.1 11.5 13.1 14.1	34 7 2 5 9 7 5 4 1 39 16 3 7	45 28 38 27 113 96 58 68 26 57 56 37 64	16.3 7.4 12.1 11.7 10.0 16.5 8.3 13.8 12.3 11.4 10.7	54 16 4 4 2 1 7 2 5 48 19 3	16. 5 7. 1 13. 4 11. 4 10. 7 16. 6 13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	15. 7. 13. 12. 11. 10. 13. 12. 12. 12.
Queens Borough 140 Richmond Borough 33 Newark, N. J 95 Oakland 69 Oblishoma City 38 Omaha 50 Paterson 36 Peoria 22 Philadelphia 434 Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond * 53 White 33 Colored 20 Rochester 69 St. Louis 187 St. Paul 46 Salt Lake City * 31 San Diego 43 San Princisco 173 Schenectady 23 Seattle 80 South Bend 13 Sporprigield, Mass 32	6.3 10.5 11.1 12.3 10.1 12.0 13.5 11.1 11.5 13.1 14.1	7 2 5 9 7 5 4 1 39 16 3 7 5	28 38 27 113 96 58 68 26 57 56 37 64	7. 4 12. 1 11. 7 11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4 10. 7	16 4 4 2 1 7 2 5 48 19 3	7. 1 13. 4 11. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	7. 13. 12. 11. 10. 13. 12. 12. 12.
Richmond Borough 33 Newark, N. J 95 Joakland 69 Oklahoma City 38 Omaha 60 Paterson 36 Peeria 23 Philadelphia 434 Pittsburgh 170 Portland, Oreg 88 Providence 81 Richmond * 53 White 33 Colored 20 Rochester 60 St. Full 46 Salt Lake City * 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Sporingfield, Mass 32	10. 5 11. 1 12. 3 10. 1 12. 0 13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	2 5 9 7 5 4 1 39 16 3 7	38 27 113 96 58 68 26 57 56 37 64	12.1 11.7 11.5 10.0 16.5 8.3 13.8 12.3 15.0 11.4	4 4 2 1 7 2 5 48 19 3	13. 4 11. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	13. 12. 11. 10. 13. 12. 12. 12.
Richmond Borough 33	11. 1 12. 3 10. 1 12. 0 13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	5 9 7 5 4 1 39 16 37 7	27 113 98 58 68 26 57 56 37	11. 7 11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4	4 2 1 7 2 5 48 19 3	11. 4 10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	12. 11. 10. 13. 12. 12. 12. 13.
Oakland 69 Oklahoma City 38 Omaha 50 Paterson 36 Peoria 22 Philadelphia 434 Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond * 33 White 33 Colored 20 Rochester 69 St. Paul 46 Salt Lake City * 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Springfield, Mass 32	12.3 10.1 12.0 13.5 11.1 11.5 13.1 14.1 16.6	9 7 5 4 1 39 16 3 7	113 96 58 68 26 57 56 37 64	11. 5 10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4 10. 7	2 1 7 2 5 48 19 3	10. 7 10. 6 13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	11. 10. 13. 12. 12. 12.
Oakland 69 Oklahoma City 38 Omaha 50 Paterson 36 Peoria 23 Philadelphia 434 Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond 6 53 White 32 Colored 20 Rochester 69 St. Faul 46 Salt Lake City 4 31 San Antonio 55 San Diego 43 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Sporngfield, Mass 32	10. 1 12. 0 13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	7 5 4 1 39 16 3 7 5	96 58 68 26 57 56 37 64	10. 0 16. 5 8. 3 13. 8 12. 3 15. 0 11. 4 10. 7	1 7 2 5 48 19 3	10.6 13.8 13.2 12.4 12.8 14.3 11.6	10. 13. 12. 12. 12. 13.
Oklahoma City 38 Dmaha 50 Paterson 36 Peoria 23 Philadelphia 434 Pittsburgh 170 Portland, Oreg 88 Richmond 6 33 White 33 Colored 20 Rochester 00 St. Louis 187 St. Paul 46 Salt Lake City 4 31 San Antonio 55 San Diego 43 San Francisco 173 Sechenectady 23 Seattle 83 Somerville 24 South Bend 13 Sporingfield, Mass 32	12.0 13.5 11.1 11.5 13.1 14.1 16.6	5 4 1 39 16 3 7 5	58 68 26 57 56 37 64	16. 5 8. 3 13. 8 12. 3 15. 0 11. 4 10. 7	7 2 5 48 19 3	13. 8 13. 2 12. 4 12. 8 14. 3 11. 6	13. 12. 12. 12. 13.
Omaha. 50 Paterson. 36 Pereria. 23 Philadelphia. 434 Philadelphia. 170 Pertland, Oreg. 83 Providence. 81 Richmond. 83 White. 33 Colored. 20 Rochester. 09 St. Louis. 187 St. Paul. 46 Salt Lake City. 31 San Antonio. 55 San Diego. 43 San Francisco. 173 Seattle. 83 Somerville. 24 South Bend. 13 Spokane. 34 Springfield, Mass. 32	13. 5 11. 1 11. 5 13. 1 14. 1 16. 6	1 39 16 3 7 5	68 26 57 56 37 64	8.3 13.8 12.3 15.0 11.4 10.7	2 5 48 19 3	13. 2 12. 4 12. 8 14. 3 11. 6	12. 12. 12. 13.
Paterson 36 Paterson 36 Peoria 22 Philadelphia 434 Pittsburgh 170 Portland, Oreg 88 Providence 81 Richmond 5 53 White 33 Colored 20 Rochester 60 St. Louis 187 St. Paul 466 Salt Lake City 3 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Popringfield, Mass 32	11. 1 11. 5 13. 1 14. 1 16. 6	39 16 3 7 5	26 57 56 37 64	13, 8 12, 3 15, 0 11, 4 10, 7	5 48 19 3	12.4 12.8 14.3 11.6	12. 12. 13.
Peoria	11. 8 13. 1 14. 1 16. 6	39 16 3 7 5	57 56 37 64	12.3 15.0 11.4 10.7	48 19 3	12.8 14.3 11.6	12. 13.
Philadelphia 434 Philadelphia 434 Pritsburgh 170 Pitsburgh 170 Pitsburgh 88 Providence 88 Richmond 6 53 White 33 Colored 20 Rochester 69 St. Louis 187 St. Paul 46 Salt Lake City 4 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 pokane 34 Springfield, Mass 32	11. 8 13. 1 14. 1 16. 6	39 16 3 7 5	56 37 64	15. 0 11. 4 10. 7	48 19 3	12.8 14.3 11.6	13.
Pittsburgh 170 Portland, Oreg 83 Providence 81 Richmond * 53 White 20 Rochester 60 St. Louis 187 St. Paul 46 Salt Lake City * 31 San Antonio 56 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Sporingfield, Mass 32	13. 1 14. 1 16. 6	16 3 7 5	56 37 64	15. 0 11. 4 10. 7	19	14.3	
Portland, Oreg	14. 1 16. 6	3 7 5	64	10.7	3	11.6	
Providence. 81 Richmend	16.6	7 5	64	10.7			12.
Richmend * 53 White 33 Colored 20 Rochester 00 St. Louis 187 St. Paul 46 Salt Lake City * 31 San Antonio 56 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 South Bend 13 pokane 34 springfield, Mass 32		5			5	12.6	12
White. 33 Colored 20 Rechester 60 St. Louis 187 St. Faul 46 Salt Lake City 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 pokane 34 poringfield, Mass 32	15.0			15.7	5	15.3	14.
Colored	13. 1	2	44	10.8	3	12.9	12
Rochester 69 St. Louis 187 St. Louis 187 St. Faul 46 Salt Lake City 1 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 pokane 34 springfield, Mass 32	19.7	3	130	27.5	2	21.4	21.
8t. Louis. 187 St. Paul 46 St. Paul 46 Salt Lake City 31 San Antonio. 55 San Diego. 43 San Francisco. 173 Schenectady. 23 Seattle. 88 Somerville. 24 South Bend. 13 Spokane. 34 Springfield, Mass. 32	10.8	4	37	8.7	4	11.7	11.
St. Paul	11.8	11	40	13.4	7	14.8	14.
Salt Lake City 1 31 San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 pokane 34 Springfield, Mass 32	8.7		21	10.7	2	10.4	10.
San Antonio 55 San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Sourerville 24 South Bend 13 Spokane 34 Springfield, Mass 32	11.3	2	15	14.8	1	12.0	12
San Diego 43 San Francisco 173 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 pokane 34 Springfield, Mass 32	11. 9		10	15. 2	5	14.1	15.
San Francisco 178 Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Spokane 34 Springfield, Mass 32	14. 3	9	62	15.7	1	13.6	14.
Schenectady 23 Seattle 83 Somerville 24 South Bend 13 Spokane 34 Springfield, Mass 32	13. 9	8 3 8	53	13. 9	9	12.9	13.
Seattle 83 Somerville 24 Bouth Bend 13 pokane 34 Springfield Mass 32	12.5	ő	0	10.3	2	10.9	11.
Somerville		3	30	12.4	8	11.3	10.
Bouth Bend 13 Spokane 34 Springfield, Mass 32	11.6			10.5			
pringfield, Mass. 32	11.9	2	62		3	8.8	9.
pringfield, Mass	6.3	1	26	9. 9	3		
Syracuse 42	15.2	1	26	9, 9	0	12.4	12
vracuse 42	10.9	1	17	11.1	2	11.4	
	10.3		49	10.4	4 2 8	11.5	11.
l'acoma 25	12.1	2 4	56	18.5	2	12.3	12.
Toledo	12.6	4	38	13.6	8	11.8	12
renton 37	15.6	2	37	17. 3	8	16.2	16.
tica 29	14.8	3	84	8.7	0	14.2	14.
Washington, D. C. 140	14. 0	14	78	14.2	9	15.9	15.
White 82		3	25	11.2	6	13.5	13.
Colored	12.0	0	188	22.3	3	22.1	20.
Waterbury 13 Wilmington, Del. 2 39	12.0 22.4	11		9. 9	2	9.5	0.
Wilmington, Del.	12.0 22.4 6.7	11	0	0.0	4	13.8	14.
Worcester 40	12.0 22.4 6.7	. 0		14.7		10.0	50 1
Yonkers24	12.0 22.4	. 0	0		3	12.0	12.7
Youngstown 16	12.0 22.4 6.7 19.1	. 11	113	14.7	3 5	8.3	8.10.

Deaths of nonresidents are included. Stillbirths are excluded.
These rates represent annual rates per 1,000 population, as estimated for 1931 and 1930 by the arithmetical

method.

*Deaths under 1 year of age per 1,000 live births. Cities left blank are not in the registration area for

Deaths under 1 year or ago published.

Data for 77 cities.

Deaths for week ended Priday.

Deaths for week ended Priday.

Deaths for week ended Priday.

For the cities for which deaths are shown by color the percentages of colored population in 1930 were as follows: Atlanta, 33; Baltimore, 18; Birmingham, 38; Dallas, 17; Forth Worth, 16; Honston, 27; Indianapolis, 12; Kansas City, Kans., 19; Knoxville, 16; Louisville, 16; Memphis, 38; Miami, 23; Nashville, 22; New Orleans, 29; Richmond, 20; and Washington, D. C., 27.

Population Apr. 1, 1930; decreased 1930 to 1930, no estimate made.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended December 19, 1931, and December 20, 1930

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 19, 1931, and December 20, 1930

	Diph	theria	Influ	ienza	Ме	asles		rococcus ingitis
Division and State	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	
New England States:								
Maine	18	5	0	2	131	37	1	1
New Hampshire	1	1				26	0	
Vermont	******	3			101	*******	0	
Massachusetts	67	79	7	6	294	308	. 3	
Rhode Island	4	.7			390		0	1
Connecticut	9	14	8	2	67	77	3	
Middle Atlantic States:							-	
New York	156	118	1 13	1 23	447	136	7	1
New Jersey	35	79	8	18	46	140	1	
Pennsylvania.	146	147			681	457	6	
East North Central States:			-					
Ohio	92	42	7	9	59	87	1 0	
Indiana	77	38	15	12	38	125		
Illinois.	135	173	3	8	36 43	290	3	1
Michigan	23	64 21	0	24	39	197	1	
Wisconsin	23	21		24	29	197	1	,
Minnesota	27	20			24		0	
Iowa	45	17	******		3	0	1	1
Missouri	102	40			6	732	8	
North Dakota	5	2			7	102	ő	
South Dakota	2	13	******	*******	80	2	0	
Nebraska.	15	18	********	8	6		0	
Kansas	54	15	1	i	11	7	0	
outh Atlantic States:	0.0	10	1		**		. 0	
Delaware	9	3			1	2		
Maryland 1	58	32	24	14	6	38	2	
District of Columbia	16	14	1	i		16	0 2	
West Virginia	65	34	18	26	281	23	3	
North Carolina	71	76	8	16	55	52	i	-
South Carolina	13	19	406	516	86		o	-
Georgia 3	26	16	49	81	1	25	0	
Florida	0	24	1	il		38	i	
ast South Central States:			- 1	- 1		-	-	
Kentucky	62						1	- (
Tennessee	73	19	25	76	19	29	2	1
Alabama *	71	43	19	91	7	61	2	- (
Mississippi	21	20					0	1
Vest South Central States:								
Arkansas	30	8	15	28			0	(
Louisiana	44	26	9	10	8		2	1
Oklahoma 4	72	55	43	62		45	0	- 1
Texas	106	55	14	60	4	51	0	1

New York City only.
 Week ended Friday.
 Typhus fever, 1931, 5 cases: 2 cases in South Carolina, 1 case in Georgia, 1 case in Alabama, and 1 case in California.
 Figures for 1931 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 19, 1931, and December 20, 1930—Continued

	Diph	theria	Influ	ienza	Me	asles	Mening	rococcus ngitis
Division and State	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20 1930
Mountain States:		5			104	1	1	-
MontanaIdaho	1 2	0			1	10	i	
Wyoming		2		2	1	1	0	
Colorado	3	10			4	17	0	1
New Mexico	13	10	5	16	6	76 15	0	
ArizonaUtah ?	11	5 2	7	18		2	0	
Pacific States:		-						
Washington	4	- 24			100	20	1	1
Oregon	1	7	57	10	3	46 223	0	
California 1	105	61	101	- 73	99	223	•	
	Polion	yelitis	Scarle	t fever	Sma	llpox	Typho	id fever
Division and State	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1130	Week ended Dec. 19, 1931	Week ended Dec. 20, 1936
New England States:								
Maine	0	0	28 12 7	33	0	0	2	
New Hampshire	0	0	12	5	10	0	0	
Vermont	0	0	369	206	0	0	8	
Massachusetts Rhode Island	0 0 8 0	8	26	22	0	0	0	
Connecticut	0	Ö	58	22 87	32	0	4	1
Middle Atlantic States: New York New Jersey						4	23	16
New York	15	3	476 142	464 172	5	0	3	
Panneulvania	5 9	5	468	450	0	Ö	28	2
Pennsylvania East North Central States:								1 1 1 1
Ohio	3	3	326	367	20	49	6	1
Indiana	0	6 3	95 307	199 344	10	71 61	5	1
Illinois Michigan	3	9	240	191	14	45	8	
Wisconsin	0	12	63	146	3	7	3	
West North Central States:			0.00					-
Minnesota	3 1	7	63	55	83 83	13 33	0	
10Wa	3	3 1 0	43 74	90 131	6	7	1 5	
Missouri North Dakota	Ô	0	28	21	22	9	0	
South Dakota		2	28 10	21 17	11	16	1	
Nebraska	0	3 1	23 82	61	5	81	4 3	1
Kansas	1	1	82	50	3	33	3	
South Atlantic States:	1	0	1	11	- 0	0	1	
Delaware Maryland 1	Ô	0	87	11 92	0	0	11	1
District of Columbia	0	0 1 2 1 1 0	87 25 65	22 53	. 0	0	0	1
West Virginia	1	2	65	53		9	31	L
North Caronna	3	1	99	65 21	1 0	3 0	11	1
South Carolina	1	0	13 28	51	6	0	14	
Florida	i	1	4	12	1	- 0	0	
est South Central States:				-			1 7	
Kentucky	0	0	93	34	. 0	0	6	I
Tennessee	0 2	0	54 50	29 54	4 0 18	1 4	- 21	
Alabama 1	0	0	13	21	18	4	2	
Mississippi West South Central States:	0	0	10	21		1		
Arkansas	0	0	11	8	0	3	10	1
		0	26	15	1	6	19	2
Louisiana Oklahoma	0	0	40	44	Ö	51	11	

Week ended Friday.
 Typhus fever, 1931, 5 cases: 2 cases in South Carolina, 1 case in Georgia, 1 case in Alabama, and 1 case in California.
 Figures for 1931 are exclusive of Oklahoma City and Tulsa,

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 19, 1931, and December 20, 1930—Continued

	Polion	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
Division and State	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	Week ended Dec. 19, 1931	Week ended Dec. 20, 1930	
Mountain States: Montana Idaho Wyoming Colorado New Mexico Arizona Utah ' Pacific States:	1 0 0 0 0	0 1 0 0 1	36 6 10 21 8 9	25 4 21 10 5 9 8	2 0 0 0 0	26 1 1 0 1 2 0	3 0 0 3 2 0	0 0 0 0 1 1 2 1	
Washington OregonCalifornia 3	1 0 2	0 0 19	50 19 127	51 4 84	10 11 2	18 1 54	0 0 6	3 0 10	

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pel- lagra	Polio- myelitis	Scarlet fever	Small- pox	Ty- phoid fever
October, 1931										
Arkansas	1	233	3	182	16	26	1	116	10	76
November, 1931	7				3.10		1		- 10	
Alabama	11	397	101	175	26	20	4	247	2	89
Idaho	1	20					0	46	3	10
Indiana	3	361	21	3	138		3	415	31	27 94 21 37 20
Maryland New Jersey	3	289 134	48	2 3	21		7	432	0	91
New Mexico	9	89	40	8	122		46	51		97
North Dakota	3	16	5		2	1	5	79	70	20
Ohio	8	568	72	3	234		20	2,005	73 55	136
Pennsylvania	18	508	12	0	1, 352	2	56	1, 603	0	135 242
Porto Rico	10	66	103	8, 158	79	3	1	1,000	0	17
South Carolina		340	1, 509	1, 116	38	160	7	62	1	17 38
West Virginia	3	228	55	4, 110	730	100		249	2	152

October, 1931	Cases	Chicken pox—Continued.	Cases
Arkansas:		North Dakota	. 126
Chicken pox	15	Ohio	1,836
Mumps	7	Pennsylvania	2, 504
Trachoma	41	Porto Rico	
Whooping cough	9	South Carolina	. 84
November, 1931		West Virginia	283
Anthrax:	7 7	Colibacillosis:	
Ohio	1	Porto Rico	. 2
Chicken pox;	7. 7)	Conjunctivitis:	
Alabama	67	New Mexico	. 1
Idaho	87	Dengue:	
Indiana	408	South Carolina	7
Maryland	250	Diarrhea:	
New Jersey	524	Maryland	25
New Mexico	118	South Carolina	332

Week ended Friday.
 Typhus fever, 1931, 5 cases; 2 cases in South Carolina, 1 case in Georgia, 1 case in Alabama, and 1 case in California.

Diarrhea and enteritis (under 2 years):	Cases	Rabies in animals:	Cases
Ohio	. 29	Maryland	. 1
Dysentery:		South Carolina	. 1
Maryland	. 22	Scables:	
Ohio		Maryland	. 20
Pennsylvania		Septic sore throat:	
Porto Rico		Idaho	
Filariasis:		Maryland	
Porto Rico	. 31	New Mexico	
Food poisoning:		Ohio	
Ohio	. 8	Tetanus:	
German measles:		Maryland	. 1
Maryland	. 14	New Jersey	
New Jersey		New Mexico	
New Mexico		Ohio	
Ohio		Pennsylvania	
Pennsylvania		Porto Rico	
Hookworm disease:		Tetanus, infantile:	
Pennsylvania	. 1	Porto Rico	. 18
South Carolina		Trachoma:	
		Indiana	. 1
Impetigo contagiosa: Maryland	61	Maryland	
Maryland	3	New Jersey	
North Dakota		New Mexico	
Lead poisoning:		North Dakota	
New Jersey		Ohio	
Ohio	. 14	Pennsylvania	
Lethargic encephalitis:		Porto Rico.	
Alabama			
Maryland		Trichinosis:	
New Jersey		New Jersey	
Ohio		Tularaemia: Indiana	. 1
Pennsylvania			
South Carolina	2	Maryland	1
Mumps:		Ohio	
Alabama		West Virginia	
Idaho		Typhus fever:	- 19
Indiana		Alabama	-
Maryland	123	South Carolina	1
New Jersey		Undulant fever:	
New Mexico	-	Indiana	
North Dakota		Maryland	
Ohio		New Jersey	
Pennsylvania		New Mexico	1
Porto Rico		Ohio	3
South Carolina	58	Pennsylvania	2
Ophthalmia neonatorum:		Vincent's angina:	
Maryland	. 3	Maryland	
New Jersey	4	North Dakota	40
Ohio	50	Whooping cough:	-
Pennsylvania	14	Alabams	61
Forto Rico	8	Indiana	
South Carolina		Maryland	
	**	New Jersey	
Paratyphoid fever:		New Mexico	
Ohio	1	North Dakota	22
Porto Rico	4	Ohio	
South Carolina		Pennsylvania	1,743
	-	Porto Rico	192
Puerperal septicemia:	1	South Carolina	72
Ohio	3	West Virginia	213
Pennsylvania	21	Yaws:	
Porto Rico	8	Porto Rico	70

RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of November, 1931 by departments of health of States named to other State health departments

Disease	Califor- nia	Connec- ticut	Illinois	Massa- chusetts	Minne- sota	New York
Diphtheria						
Laprosy	1					
Lethargic encephalitis				1		
Malaria		1				
Meningococcus meningitis						
Poliomyelitis					3	********
Syphilis					1	
Tuberculosis	. 5		4		30	
Typhoid fever				1	2	
Undulent fever		1				

ADMISSIONS TO HOSPITALS FOR THE INSANE, SEPTEMBER, 1929

Reports for the month of September, 1929, showing new admissions to hospitals for the care and treatment of the insane, were received by the Public Health Service from 118 hospitals, located in 41 States, the District of Columbia, and the Territory of Hawaii. The 118 hospitals had 184,242 patients on September 30, 1929, 97,889 males and 86,353 females, the ratio being 113 males per 100 females.

The following table shows the number of new admissions for the month of September, 1929, by psychoses:

	Number	of first adi	missions
Psychoses	Male	Female	Total
1. Traumatic psychoses	6	1	
	179	132	31
2. Senile psychoses	182	94	270
4. General paralysis	210	70	280
4. General paralysis 5. Psychoses with cerebral syphilis	26	13	31
A Psychoses with Huntington's chores	3.1	4	
7. Psychoses with brain tumor. 8. Psychoses with other brain or nervous disease	2	0	
8. Psychoses with other brain or nervous disease	23	17	4
9. Alcoholic psychoses	131	16	143
0. Psychoses due to drugs and other exogenous toxins.	9	9	18
Psychoses with pellagra. Psychoses with other somatic diseases	17	29	46
2. Psychoses with other somatic diseases	28	38	66
3. Manic-depressive psychoses	174	248	42
4. Involution melancholia	20	42	60
5. Dementia priecox (schizophrenia)	350	265	613
8. Paranois and paranoid conditions.	37	52	86
7. Epileptic psychoses	40	- 36	76
8. Psychoneuroses and neuroses	20	43	63
9. Psychoses with psychopathic personality	14	8	25
D. Psychoses with mental deficiency	64	58	122
1. Undiagnosed psychoses	139	79	218
2. Without psychosis	154	60	214
Total	1, 828	1, 314	3, 142

During the month of September, 1929, there were 3,142 new admissions to the hospitals, 58.2 per cent of these being males and 41.8 per cent females, the ratio being 139 males per 100 females. Four hundred and thirty-two of the new admissions were reported as undiagnosed or "without psychosis." There were 2,710 new admissions for which provisional diagnoses were made. Of these 2,710

patients, cases of dementia præcox constituted 22.7 per cent; manicdepressive psychoses, 15.6 per cent; senile psychoses, 11.5 per cent; general paralysis, 10.3 per cent; and psychoses with cerebral arteriosclerosis, 10.2 per cent. These five classes accounted for 70.3 per cent of the new admissions for which diagnoses were given.

The following table shows the number of patients in the hospitals and on parole on September 30, 1929:

	Total	patients or	books
	Male	Female	Total
Total patients on books last day of month: In hospitals. On parole or otherwise absent, but still on books	87, 340 10, 549	78, 117 8, 236	165, 457 18, 785
Total	97, 889	86, 353	184, 242

Of the 184,242 patients, 10,549 males and 8,236 females were on parole or otherwise absent but still on the books at the end of the month—10.8 per cent of the males, 9.5 per cent of the females, and 10.2 per cent of the total number of patients.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 97 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 33,400,000. The estimated population of the 90 cities reporting deaths is more than 31,855,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended December 12, 1931, and December 13, 1930

	1931	1930	Estimated expectancy
Diphtheria: Cases reported		7-10	4.5
46 States	2, 225	1,718	100
97 cities.	593	550	964
Measles:	040	550	100
45 States	3,306	3, 213	10 mm
97 cities	755	1, 021	
Meningococcus meningitis:	,00	3,000	
46 States	81	121	. Ab
V/ Cities	35	47	
Poliomyelitis:		-	
46 States	97	80	
Scarlet fever:	-		
46 States	4, 059	4, 271	
97 cities	1, 426	1, 400	1, 123
Smallpox:	7,22	-,	7,000
46 States	264	493	
97 cities.	24	90	27
Typhoid fever:			1
46 States	368	344	
97 cities	57	50	47
Deaths reported	13.0		1
	- 4 72		10000
Influenza and pneumonia:	300		1200
90 cities	647	693	
Smallpox:	45 60		
90 cities	0	0	

City reports for week ended December 12, 1931

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1922 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

	aria	Diph	theria	Influ	ienza		100	
Division, State, and city	Chick- en pox, eases re- ported	Cases, esti- mated expect- ancy	Cases reported	Cases reported	Deaths reported	Mea- sles, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths re- ported
NEW ENGLAND	170	7, 1		12314		pro co	e Tui	NU -
Maine:	14 33		100 July	17. 1	22.5	100	116	
Portland New Hampshire:	8	0	2		0	26	1	3
Concord	0	0	0		0	0	0	0
Nashua	0	1	0		0	0	0	0
Vermont:	0	0	0		0	0	0	0
Barre	20000		W (4 13 3		Sept 18	1 1 1 1 1	75-12	9
BostonFall River	42	39	20	4	0	1 0	16	11
Springfield	11	5	2 0		0	0	10	11 0 0
Worcester	16	6	0		0	0	69	i
Rhode Island: Pawtucket	0	2	0		0	0	0	0
Providence	2	2	4	3	0	245	15	7
Connecticut: Bridgeport	10	5	1	1	1	0		
Hartford	4	6	Ô		ô	0	1	1
New Haven	40	1	0	**********	0	1	12	2
MIDDLE ATLANTIC	17-		a dem					
New York:		113						
Buffalo	83	18	101	**********	1	.4	1	18
New York Rochester	114	174		11	6	17 32	34	137
Syracuse	10	2	0		o l	0	1	2
New Jersey:	7	6	7	1	0	0		
Camden Newark	27	17	2	6	0	2	0 8	7
Trenton	1	2	2	1	1	1	23	2
Pensylvania: Philadelphia	100	17	5	8	6	3	10	48
Pittsburgh	48	57 20	9	2	4	139	13	27
Reading	13	2	0	********	0	0	1	1
Scranton	3	5	0	**********	0	0	0	. 0
BAST NORTH CENTRAL	1	94.3	731.3	MOTE	363		1	
Ohio: Cincinnati	19	10			0			
Cleveland	165	12 39	8	11	1	13	73	7
Columbus	8	6	12		1 0	1	2	0
Toledoindiana:	81	8	8	1	1	1	0	2
Fort Wayne	0	4	7		0	0	0	10
Indianapolis	70	10	3	*********	0	i	47	
South Bend	8	1	3	*********	0	0	0	0
Illinois:	P 102					1		
Chicago Peoria	96	121	64	11	4	12	3	51
Springfield	9 -	2	1	**********	0	1	0	
Michigan:						-		HALL TV
Detroit	51 23	86	30	3	0	6	8	20
Grand Rapids	4	-1-1	0		0	0	41	i

- 00000		Diph	theria	Influ	lenza			Description
Division, State, and city	Chick- en pox, cases re- ported	Cases, esti- mated expect- ancy	Cases reported	Cases reported	Deaths reported	Mea- sles, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths re- ported
EAST NORTH CEN-							1411	77.60
Wisconsin: Kenosha Madison Milwaukee Racine Superior	4 11 59 22 14	1 2 15 2 1	1 5 2 0 0		0 0 0 0	1 0 9 0	1 1 50 26 8	
WEST NORTH CENTRAL				1111		100		
Minnesota: Duluth Minneapolis St. Paul	7 74 26	0 18 6	0 8 5		0 1 0	0 4 0	0 28 0	
Davenport Des Moines Sioux City Waterloo	4 2 13 18	0 2 1 0	0 10 6 2			0 1 0 1	0 0 0	**********
Missouri: Kansas City St. Joseph St. Louis	25 6 19	8 1 42	12 4 30	1	0	2 0 0	0 1 1	10
North Dakota: Fargo Grand Forks	11 7	0	0		1	13 0	0	
South Dakota: Aberdeen	33	0	0			22	0	
Nebraska: Omaha	22	8	9		0	2	2	
Kansas:								
Topeka Wichita	15	1 2	10		0	1	0	
SOUTH ATLANTIC			1800	100				
Delaware: Wilmington Maryland:	4	. 2	-1		0	2	0	
Baltimore Cumberland	23	24 1 1	15	11	0	0	31	2
Frederick District of Columbia: Washington	0	18	6 11	2	0 2	0 2	0	11
Virginia:			100	_	0	0		
Lynchburg Norfolk Richmond Roanoke	0 0 7	3 2 12 3	3 5 8 2		0 1 0	0	1 0 0	
West Virginia: Charleston			- 0		0	0	0	
Huntington Wheeling North Carolina: Raleigh	18 1 6	1 1	5 0	*********	0	. 0	0	
Wilmington Winston-Salem	1 3 1	2 2 3	0 1		0 0 1	1 0 0	0 0 1	
Charleston Columbia Greenville	0	0	0	. 33	0	0	0	
Atlanta	5 0 0	7 0 3	3 0	12	0 0 1	0	0 1 0	
Savannah	1 0	2 2	1 0		0 0	1 0	0	
Tampa	0	2	0	1	0	0	0	1
Kentucky: Covington Lexington	2	1	1 3		0	0	0	

		Diph	theria	Infi	ienza		135	
Division, State, and city	Chick- en pox, cases re- ported	Cases, esti- mated expect- ancy	Cases reported	Cases reported	Deaths reported	Measles, cases re- ported	Mumps, eases re- ported	Pneu- monia, deaths re- ported
EAST SOUTH CENTRAL—continued								(100
Tennessee: Memphis Nashville Alabama:	1	7 2	18 1		0 2	0	1 0	
Birmingham Mobile Montgomery	0 0	7 3 2	6 1	7 2	1 1	1 0 2	0 0 2	
WEST SOUTH CEN-								16)21
Arkansas: Fort Smith Little Rock Louisiana:	0	1	3 5		. 0	0	0	
New Orleans Shreveport Oklahoma:	0	15	17 5	3	1 0	0 5	0	14
Muskogee Texas:	0		12		0	0	6	June 21
Pallas Fort Worth Galveston Houston San Antonio	0 0	18 7 1 10 5	25 11 3 21 6	1	0 0 0 0	0 0 0	0 0 0 1	
MOUNTAIN							-	41 -
Montana: Billings. Great Falls. Helena. Missoula.	0 3 0 0	0 0 0	0 0 0	1	0 0 0 1	61 0 28 0	1 0 0 0	1 0 0
Idaho: Boise	3	0	0		0	0	1	
Colorado: Denver Pueblo New Mexico:	36 9	9	2 0		3 0	1 1	5 0	8
Albuquerque	9	0	0		0	0	0	1
Phoenix	0	0	0.		0	0	0	1
Salt Lake City Nevada: Reno	61	4	0		0	0	0	1
PACIFIC			-173		0.33		-	
Vashington: Seattle	44 14 23	5 1 3	0 0		0	53 2 3	7 0 6	
Portland	25 5	11 0	0	3	0	4 0	8 0	10
Los Angeles Sacramento San Francisco	56 6 69	34 3 13	29 2 0	53	3 0 3	2 40 7	33 1 2	27 8 14

	Scarle	t fever		Smallpo)X	Tuber-		phoid f	ever	Whoop	
Division, State, and city	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	culo- sis, deaths re-	Cases, esti- mated	Cases re- ported	Deaths re- ported	ing cough, cases re- ported	Deaths, all causes
NEW ENGLAND											17.00
Maine:											
Portland New Hampshire:	2	4	0	0	0	0	0	0	0	3	23
Concord	1	6	0	0	0	1	0	0	0	0	11
Nashua Vermont:	0	0	0	0	0	0	0	0	0	0	
Barre	0	0	0	0	0	1	0	0	0	1	1
Massachusetts:		-	-								
Boston Fall River	63	83 12	0	0	0	15	1 0	3 0	0	37	210 22
Springfield	6	8	0	0	0	ô	1	1	0	1	24
Worcester	12	25	0	0	0	1	0	0	0	16	40
Rhode Island: Pawtucket	2	0	0	0	0	0	0	0	0	. 0	20
Providence	11	14	0	0	0	3	0	0	0	1	81
Connecticut: Bridgeport	7	4	0	3	0	2	0	0	0	1	25
Hartford	6	ő	0	0	0	2	1	0	0	3	42
New Haven	3	4	0	0	0	0	0	0	0	8	39
MIDDLE ATLANTIC						1			1	70-1	
New York:			-								
Buffalo	23	41	1	0	0	2	1	0	0	27	143
New York Rochester	138	163 48	0	0	0	C8	12	10	3 0	73	1,392
Syracuse	9	11	0	0	0	Ô	0	0	0	68	42
New Jersey: Camden	4	8	0	0	0	0	0	0	0	3	40
Newark	14	10	0	0	0	0	1	0	1	36	99
Trenton	8	5	0	0	0	3	0	0	0	0	37
Pennsylvania: Philadelphia	70	91	0	0	0	24	3	1	1	100	434
Pittsburgh	39	63	0	0	0	2	0	2	1	25	170
Reading	3	10	0	0	0	0	0	0	0	4	17
EAST NORTH		10									
CENTRAL											
Ohio:									-		
Cincinnati Cleveland	35	45 51	0	0	0	13	1	1	0	123	130 140
Columbus	11	14	0	0	0	1	0	0	0	15	63
ToledoIndiana:	12	6	0	6	0	4	0	0	0	33	72
Fort Wayne	3	1	0	0	0	1	0	1	0	1	28
Indianapolis	13	4	3	0	0	8	0	0	0	12	
South Bend Terre Haute	3	1 2	0	0	0	0	0	0	0	0	13
Illinois:							1	1			
Chicago Peoria	112	189	1	0	0	47	2	2	0	179	688
Springfield	2	6	0	0	0	1	0	0	0	22	25
Michigan:											-
Detroit	88	95	0	0	0	19	0	0	1 0	94	238
Grand Rapids	9	7	ő	ő	ŏ	0	0	0	0	6	27
Wisconsin: Kenosha	2	3									
Madison	3	11	0	0	0	0	0	0	0	1 2	7
Milwaukee	21	27	0	0	0	5	0	0	0	100	88
Racine Superior	4 3	27 1 2	0	0	0	0 1	0	0	0	7 0	10
WEST NORTH CENTRAL										13	
Minnesota:					1						
		18 8	0 0 1	0	0	0 2 0	0 1	0 1 0	0	2 15	10
Duluth Minneapolis	43		0 1	91	0 1	91		W 1			96 60

west north central cen	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated	Cases		Tuber- culo-	Cases,			Whooping	L-0-1-
TRAL—continued Iowa: Davenport Des Moines Sioux City Waterloo Missouri: Kansas City St. Joseph St. Louis North Dakota: Fargo Grand Forks Bouth Dakota: Aberdeen Nebraska: Omaha Kansas Topeka Wichita South Atlantic Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk				re-	Deaths re- ported	sis, deaths re- ported	esti- mated	Cases re- ported	Deaths re- ported	cases re- ported	Deaths, all chuses
Davenport Des Moines Sioux City Waterloo Missouri: Kansas City St. Joseph St. Louis North Dakota: Fargo Grand Forks Bouth Dakota: Aberdeen Nebraska: Omaha Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk			-								
Des Moines Sioux City Waterloo Missouri: Kansas City St. Joseph St. Louis North Dakota: Fargo Grand Forks South Dakota: A berdeen Nebraska: Omaha Kansas: Topeka Wichita South ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk					18	100			0	1000	150
Sioux City Waterloo Missouri: Kansas City St. Joseph St. Louis North Dakota: Fargo Grand Forks South Dakota: Aberdeen Nebraska: Omaha Kansas: Topeka Wichita South ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	10	2 5	1	0			0	0		0	87
Missouri: Kansas City St. Joseph St. Louis North Dakota: Fargo Grand Forks South Dakota: Aberdeen Nebraska: Omaha Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	1	3	1	7			0	1		6	
Kansas City St. Joseph St. Joseph St. Louis North Dakota: Fargo Grand Forks South Dakota: Aberdeen Nebraska: Omaha Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	2	1	0	0		******	0	0		2	
St. Louis North Dakota: Fargo Grand Forks South Dakota: Aberdeen Nebraska: Omaha Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	14	12	0	0	0	5	0	0	0	14	106
North Dakota: Fargo	3	2	1	0	0	0	0	0	0	1	21
Fargo. Grand Forks. South Dakota: Aberdeen. Nebraska: Omaha. Kansas: Topeka. Wichita. SOUTH ATLANTIC Delaware: Wilmington. Maryland: Baltimore. Cumberland. Frederick District of Col.: Washington. Virginia: Lynchburg. Norfolk.	36	19	1	0	0	14	2	0	0	52	187
South Dakota: Aberdeen Aberdeen Nebraska: Omaha Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	3	2	0	0	. 0	0	0	0	0	1	4
Aberdeen Nebraska: Omaha Vanass: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	0	0	0	0			0	0		0	*******
Nebraska: Omaha Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	0	2	0	0			0	0			200
Kansas: Topeka Wichita SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk		150		46.153			0.000				
Topeka. Wichita. SOUTH ATLANTIC Delaware: Wilmington. Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	7	9	2	0	0	2	0	1	1	0	50
SOUTH ATLANTIC Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	2	0	0	0	- 0	1	0	0	0	5	22
Delaware: Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	4	2	0	0	0	1	0	0	0	1	22 26
Wilmington Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk		-				1				1000	
Maryland: Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk						- 1	-		3		
Baltimore Cumberland Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	5	1	0	0	0	3	0	0	0	3	39
Frederick District of Col.: Washington Virginia: Lynchburg Norfolk	25	17	0	0	0	18	2	4	0	132	195
District of Col.: Washington Virginia: Lynchburg Norfolk	1	4	0	0	0	2	0	0	0	0	15
Washington Virginia: Lynchburg Norfolk	1	4	0	0	0	0	1	3	0	0	4
Lynchburg	19	21	0	0	0	12	0	1	1	16	140
Norfolk	-									-	
	3	3	0	0	0	0	0	1 0	0	7	11
Richmond	8	15	0	0	0	2	1	0	0	0	51
Roanoke West Virginia:	3	1	0	0	0	0	1	0	0	0	18
Charleston	2	1	0	0	0	0	0	13	1	8	22
Huntington		3 .		0	0	0		0	0	0	
Wheeling North Carolina: Raleigh	2	4	0	0	0	0	0	0	0	3	17
Raleigh	1	2	0	0	0	1	0	0	0	0	19
Wilmington Winston-Salem	8	1 2	0	0	0	0 2	0	0	0	7 2	7
Bouth Carolina:	0	-	0		0	-	0			-	20
Charleston	1	0	0	0	0	8	1	0	0	0	25
Columbia Greenville	0	0 2	0	0	0	0	0	0	0	0	13
Georgia:					100						
Atlanta Brunswick	6	8	0	0	0	4	0	1 0	0	0	56
Savannah	1	3	1	0	0	0	0	2	0	Ö	29
Florida:						-	-				
Miami Tampa	2	0 3	0	0	0	2	0	0	0	0	24 21
EAST SOUTH CEN-										-	
TRAL						-	-634			4.34	
Kentucky:										0	10
Covington	4	9	0	0	0	0	0	0	0	3	12 21
Cennessee:	-		-							1	
Memphis Nashville	7 2	11 5	0	0	0	1	1	0 2	0	26 5	77 56
labama:		"	. "	111			-1		110	- 2000	
Birmingham	0	6	1	0	0	6	1	1 0	0	0	88 18
Mobile	ő	8 7	0	0 -	0	1	0	0	0	0 -	10
WEST SOUTH CEN-			1						1		
TRAL						163		ME P	190 3	112	
rkansas:				1	100			40	1.557	W.	
Fort Smith Little Rock	1 2	0 2	0	0 -	0	3	0	1 -	0	0 -	
ouisiana:	-			- 1		100			4	337	136
New Orleans Shreveport	8 2	16	0	3	0	11	2	8	1 0	1 2	136

^{1 2} nonresidents.

The state of	Scarle	t fever		Smallpo	X	Tuber-	Ty	phoid fo	over	Whoop-	
Division, State, and city	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	culo- sis, deaths re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	ing cough, cases re- ported	Deaths all causes
WEST SOUTH CEN-			17						100		
Oklahoma: Muskogee		1		- 1	0	0	*****	0	0	6	
Texas: Dallas Forth Worth Galveston Houston	8 2 0 3	14 11 0 3	1 0 0 1	0 0 0 2	0 0 0	1 2 0 5	0 0 1 0	2 1 0 2	0 0 0	0 1 0 0	5: 3: 4: 5:
San Antonio MOUNTAIN	2	5	0	0	0	6	0	0	0	0	54
Montana: Billings Great Falls Helena	1 2 1 1	1 1 0	1 0 0	0 0	0 0	0 0	0 0	0	0	0	
Missoula Idaho: Boise	1	0	1 0	0	0	0	0	0	0	0	
Colorado: Denver Pueblo	14	17	0	. 0	0	7 0	0	0	0	9 2	61
New Mexico: Albuquerque Arizona:	1	1	0	0	0	5	0	1	0	1	11
Phoenix Utah:	2	9		0	0	3	0	0	0	0	31
Salt Lake City. Nevada: Reno	0	0	0	0	0	0	0	0	0	0	1
Washington: Seattle Spokane Tacoma	9 8 4	10 3 4	0 4 2	2 0	0	0	1 0 0	2 0	0	2 0 8	23
Oregon: Portland Salem	8	3 0	5 0	0	0	2 0	1 0	3 0	0	0 2	83 13
California: Los Angeles Sacramento San Francisco.	29 3 16	51 3 7	1 0 0	0 0 3	0 0	21 6 12	2 0 1	1 0 0	1 0 0	23 2 3	363 47 161
			1	eningo- coccus eningitis	Letin	argic en halitis	Pe	llagra		myelitis e paraly	
Division, Stat	te, and	city	Case	es Deat	hs Cases	Death	s Cases	Death	Cases, esti- mated expect ancy	Cascs	Deaths
NEW ENG	GLAND	145									
Boston Fall River Rhode Island:			- 1		0 0	0		0		0	0
Providence Connecticut: Hartford			- 6		0 1	0		0	1 . 3		0
New Haven			- 6		0 0	0		0			i

MIDDLE ATLANTIC

New York.
New York.
Rochester.
New Jersey:
Camden.
Newark
Pennsylvania:
Philadelphia
Pittsburgh.

0 0 0

00 00

	co	ningo- eccus ningitis	Lethi	argic en- halitis	Pe	llagra	Polion	nyelitis paraly	(infan-
Division, State, and city	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, esti- mated expect- ancy	Cases	Deaths
EAST NORTH CENTRAL	195	14116					77.30		
Ohio:	-	103	0	13000	178	11.00	1.45	3	70.3
ColumbusIndiana:	0	1	0	0	0	. 0	0	0	
Indianapolis	4	0	0	0	0	0	0	0	
Illinois: Chicago	4	3	1	0	0	0	0	3	
Peoria	0	0	0	0	0	0	0	1	
Michigan: Detroit	0	0	1	0	0	0	0	1	1
Flint	1	1	0	0	. 0	0	0	0	0
Grand Rapids	1	1	0	0	0	0	0	0	0
Madison	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL			132						
Minnesota:	1	100	100			15		100	
Duluth St. Paul Missouri:	0	0	0	0	0	0	0	1 2	0
Kansas City	0	0	0	0	1	0	0	0	0
St. Louis	1	0	. 0	0	0	0	0	0	0
SOUTH ATLANTIC						9 14			
Maryland: Baltimore District of Columbia:				11			- 13		
Baltimore	0	0	0	0	0	1	1	0	0
Washington	1	0	0	0	0	0	0	0	0
Virginia: Norfolk	1	0	0	0	0	0	0	0	0
North Carolina:		1100		200		100			-
Raleigh Winston-Salem	0	0	0	0	1	3	0	0	0
South Carolina:					111			0.5	
Charleston 1	0	0	0	0	2	0	0	0	
Atlanta	1	1	0	0	0	0	0	1	1 0
Florida:	0	0	0	0	1	1	0	0	0
Miami Tampa ¹	0	0	0	0	0	1	0	0	0
Tampa	1	0	1	0	0	0	0	0	
RAST SOUTH CENTRAL	-								
Kentucky:		=		-					
Lexington	0	0	0	0	0	1	0	0	0
Memphis	1	0	0	0	0	0	0	0	0
Alabama: Birmingham	0	0	0	0	1	1	0	1	0
WEST SOUTH CENTRAL							200		
		12.	6	-				-34	
Texas: Galveston	1	0	0	0	0	0	. 0	0	. 0
Houston	0	1	0	0	0	0	0	0	0
MOUNTAIN							77, 17		
Utah: Salt Lake City	1	1	0	0	0	0	0	0	. 0
PACIFIC							1	10:19	
Washington:			-	1					1
Seattle	1	0	0	0	0	0	0	0	
Portland	0	0	1	0	0	0	1	0	. 0
Los Angeles	1	1	0	0	1	1	1	0	0
San Francisco	3	0	0	0	0	0	0	0	2

¹ Typhus fever, 5 cases and 1 death; 1 case and 1 death at Charleston, S. C.; 1 case at Savannah, Ga.; and 3 cases at Tampa, Fla.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended December 12, 1931, compared with those for a like period ended December 13, 1930. The population figures used in computing the rates are estimated midyear populations for 1930 and 1931, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 33,000,000. The 91 cities reporting deaths have more than 31,500,000 estimated population.

Summary of weekly reports from cities, November 8 to December 12, 1931—Annual rates per 100,000 population compared with rates for the corresponding period of 1980 1 DIPHTHERIA CASE RATES

					Week	ended-				
4 100	Nov. 14, 1931	Nov. 15, 1930	Nov. 21, 1931	Nov. 22, 1930	Nov. 28, 1931	Nov. 29, 1930	Dec. 5, 1931	Dec. 6, 1930	Dec. 12, 1931	Dec. 13, 1930
98 cities	96	89	96	100	. 84	87	101	1 90	93	1 87
New England Middle Atlantie East North Central West North Central South Atlantie East South Central West South Central West South Central Mountain Pacific	50 52 80 184 146 227 233 61 127	82 44 128 107 120 185 160 26 63	70 53 91 174 172 169 206 17 98	123 52 124 110 154 275 171 26 63	67 58 71 138 144 145 206 26 67	87. 48 122 110 66 138 153 79 95	58 54 94 222 164 163 244 52 88	121 58 112 101 112 143 2 147 18 65	70 59 86 168 118 163 287 26 61	125 47 120 97 122 138 7 132 26
		MEA	SLES (CASE I	RATES					
98 cities	55	91	85	126	90	107	113	2 142	118	1 102
New England. Middle Atlantie. East North Central West North Central South Atlantie East South Central West South Central Mountain Pacific	238 38 18 17 10 12 24 400 135	172 68 17 502 26 18 0 308 32	233 92 29 19 34 29 10 757 149	179 76 31 767 64 149 3 326 28	315 82 15 13 28 35 24 1, 236 123	162 69 28 649 44 66 10 282 10	481 111 31 27 43 35 27 757 180	220 85 28 953 62 155 111 53 26	656 89 28 46 22 17 17 17 800 210	273 85 26 1, 077 80 299 2 11 150 26
	BC	ARLE'	r FEV	ER CA	SE RA	TES			., 1	18
98 cities	170	187	187	195	155	174	179	1 202	222	1 224
New England. Middle Atlantle. East North Central West North Central South Atlantle. East South Central West South Central Mountain Pacific	221 131 215 149 239 198 122 313 96	276 126 287 143 154 275 118 388 99	260 163 241 132 259 145 78 218 129	237 159 263 219 216 209 94 282 87	262 147 169 117 176 122 95 191 108	264 148 221 139 188 215 132 229 83	293 155 229 161 172 128 108 218 100	268 178 257 198 230 299 292 141 97	397 190 281 143 176 250 142 261 153	259 186 315 209 260 377 84 211 71
		SMALI	LPOX	CASE	RATE	9				
98 cities	1	4	1	3	2	8	5	27	4	214
New England. Middle Atlantie. East North Central West North Central South Atlantic. East South Central West South Central Mountain. Pacific.	0 0 0 4 0 6 3 9	0 0 2 21 0 0 3 0 18	0 0 0 10 0 0 0 0	0 0 0 23 0 0 3 44 6	0 0 0 11 0 6 20 0 6	0 0 4 68 0 0 3 35 8	55 1 0 4 0 0 3 0 10	0 0 1 48 0 0 24 106 10	7 0 2 13 0 0 0 17 0	0 0 3 122 0 0 0 27 150 6

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1931, and 1930, respectively.
² Shreveport, La., not included.

Summary of weekly reports from cities, November 8 to December 12, 1931—Annual rates per 100,000 population compared with rates for the corresponding period of 1930—Continued

TYPHOID FEVER CASE RATE				
	RATES	CASE	FEVER	TYPHOID

was the same of					Week	ended-				
	Nov. 14, 1931	Nov. 15, 1930	Nov. 21, 1931	Nov. 22, 1930	Nov. 28, 1931	Nov. 29, 1930	Dec. 5, 1931	Dec. 6, 1930	Dec. 12, 1931	Dec. 13, 1930
98 cities	12	15	12	15	7	10	7	*10	9	18
New England Middle Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	7 6 11 13 36 23 24 0 10	24 4 5 19 34 48 87 26 10	10 8 5 8 24 41 41 9 18	17 5 9 23 28 12 84 53 10	2 4 5 8 34 6 7 0 2	12 3 4 8 32 12 70 9 6	5 5 4 4 16 12 27 26 10	7 8 10 6 18 12 26 9	10 6 3 6 32 17 34 0 6	19 6 7 0 4 18 2 22 0 6
	I	NFLUI	ENZA	D_ATE	RAT	ES				NO.
91 cities	8	9	7	10	7	9	7	19	8	10
New England Middle Atlantic East North Central West North Central South Atlantic East South Central Mest South Central Mountain Pacific	14 10 2 6 6 0 7 27 12	5 8 9 6 6 39 28 9 5	7 6 4 6 12 25 10 17 8	7 7 7 5 6 24 13 36 62 7	0 9 5 3 6 13 17 26 7	2 11 7 0 10 26 14 26 7	2 4 6 6 6 38 7 9 19	5 6 8 12 20 13 234 18 2	5 8 3 6 12 25 7 35 14	5 7 5 21 24 26 211 9 7
	P	NEUM	ONIA	DEATH	I RAT	ES				
01 cities	86	115	101	116	86	109	89	1 99	98	* 106
New England. Middle Atlantic	101 106 52 88 97 151 55 148 70	114 129 85 78 172 188 103 220 67	84 116 70 115 152 183 79 174 50	126 133 82 138 156 175 114 167 50	99 98 52 106 122 107 66 122 74	77 118 78 93 180 136 153 229 70	91 95 56 88 146 95 135 122 77	73 101 77 132 154 155 128 132 60	67 108 66 112 140 113 104 87 130	119 104 86 150 134 123 162 159 60

³ Shreveport, La., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended December 5, 1931.—The Bureau of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended December 5, 1931, as follows:

Province	Cerebro- spinal fever	Influenza	Polio- myelitis	Smallpox	Typhoid fever
Prince Edward Island 1					
Nova Scotia		8	1	******	1
Quebec			9		11
Ontario	1		1	5	- 2
Saskatchewan				9	
British Columbia:					
Total	1	8	11	15	46

¹ No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended December 5, 1931.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended December 5, 1931, as follows:

Disease	Cases	Disease	Cases
Chicken pox Diphtheria Erysipelas German measles Measles Mumps	106 56 2 3 150 27	Poliomyelitis. Scarlet fever. Tuberculosis Typhold fever. Whooping cough.	70 27 11 23

CUBA

Provinces—Communicable diseases—Four weeks ended October 24, 1931.—During the four weeks ended October 24, 1931, cases of certain communicable diseases were reported in Cuba as follows:

Disease	Pinar del Rio	Habana	Matan- zas	Santa Clara	Cama- guey	Oriente	Total
Diphtheria Malaria Measles Paratyphoid fever Poliomyelitis		14 16 70	6 3	5 1 19 5	24 1	22	6 9
Scarlet fever Typhoid fever		15	1 6	2 18	4	10	5

JAMAICA

Communicable diseases—Four weeks ended December 5, 1931.— During the four weeks ended December 5, 1931, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the island of Jamaica outside of Kingston, as follows:

Disease	Kings- ton	Other localities	Disease	Kings- ton	Other localities
Cerebrospinal meningitis	1 2 2 2	2 28 6 1 3	Lethargic encephalitis Puerperal fever. Smallpox (alastrim) Tuberculosis Typhoid fever	35 5	1 2 1 60 71

MEXICO

Tampico—Communicable diseases—November, 1931.—During the month of November, 1931, certain communicable diseases were reported in Tampico, Mexico, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	6 19 2 953	2 50 25	Paratyphoid fever Smallpox Tuberculosis Typhoid fever Whooping cough	1 66 3 18	20 4

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Hygiene, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for which reports are given.

CHOLERA

[C indicates cases; D, deaths; P, present]

	;		1						M	Week ended-	-pepu						
Place	May 81- June 27,	June 38- July 25,	26- Aug.22,	Sept.	Sept.		Octo	October, 1931	31		Z	November, 1931	er, 193		Dece	December, 1931	188
			1001		1881	89	10	11	75	31	-	2	22	8	10	13	9
Ceylon: Colombo			800														
China. Hankow	-			es .		1 1	00		10	<u>se</u>			9		.00		
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1	7	125	35	28	110	11	00	-	1 1	1 1	•				
Swatow C	1	7		3	e i	x0			-								
India	18,001	22, 074 12, 093	36, 514 20, 276	39, 223 21, 683	3,716	10, 172	4,556										
Leanuta Colonita	292	23.52	188	\$7.5		8	04 09 00	7	+ +	2	61	85	2	× 4 5			
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		155	90	15		12		10-	0	-	01	14	10	=			
	6	+	- 9	0110		2 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0		1 1								
Moulmein	1 0 0					1 s 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1 1		1 1	1 1						
Negapatam.		7.		-				1 1 0 2 · · · 1 1 2 0 1 · ·	-								
Vizagapatam.		-	-						7								
Chandernagor		*C ==	1-1-	C9 C9		4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	0 0			0 1	0 0			0 0			
Pondicherry		000	000	+0		1											

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

CHOLERA—Continued

[O indicates cases; D, deaths; P, present]

									We	Week ended-	- po					
Place.	May 31- June 27,	June 28- July 25,	July 26- Aug. 22,	Sept.	Sept.		Octo	October, 1931		_	Nov	November, 1931	, 1931	1	December, 1931	ber, 1
	139	1881	1881	1931	1931		9	11	76	31	1 1	14	12	88	10	23
India (Portuguese)	DA	61-1	6161	281		101	27	1230	Si w	80						
Cochin-China-Rackgla. Phompenh	0000	1001	es=	C4 C4			-			63	Ce .					
Baigon and Cholon.		42					-									
Application	000		64	000			64	C4 -	64-			000	00 4		#	II
Amars Province	906		1	385		22	15	121	131	1-8	120	•	-	60 64		
Basta	206		22,2	293		2=	22	32	88	283	60			11		
Basra Province	306		100	28		8			87	1-4		1 1	1 1	11	11	
Dinwaniyah Dinwaniyah Province	000				-12:	∞ <	14	22	232							
Iwaniyah	DOA				223							1 1			11	
Kut Province	DO	1 0								12	0 090	1 18	11.	1		
Muntafiq Province	100			145		25	2 8	35	101	18	90	22	- 00	-	T	
Nasiriyah.	00			21.88	4 00	**	28	r-09	400	-0	90	-0	64	-10		1.1
Suqelshuyukh	100			04.00							1 1				-	
Japan: Taiwan—Kelung	0										64			-	-	
resss.	0							-	-			-	1.	-	-	

Khorramabad	000	* * * * * * * * * * * * * * * * * * *		1 1				-	63	5	9	18 16	808	45	
Mohammerah Philippine Islands: ¹ Frovinces— Capiz.	0 00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	35	648	23	1010	- +00	1-10	104	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				52
Cebu	DAC	46	 												
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	S S S S S S S S S S S S S S S S S S S	23				9 9 9 9 9 9 9 9 9 9 9 9 9 9 9									
			1	-				1 1							
Bangkok	206		1												
cutta, from Co-		•						1		1					
cutta ire, Persia, from	0 0	-													
S. S. Kohistan, at Basra, from Bushire, Persia	ADO	69								1 1					
Shanghai	000		-	-											
S. S. Ankoo, at Nagasaki, from Shanghai	06		0 0	04 -						1					

'On Oct. 25, 1931, this, events was reported at Mohammersh, Abdam, and Abwar, Persia. During the period from Oct. 22 to Nov. 7, 1931, 141 cases and 97 deaths were reported. The disguess of choiers was not confirmed upon bacteriological examination.

Figures for choiers in the Philippine Blands are subject to correction.

Diom	May,	June,	July,	Y	August, 1931	181	Sep	September, 1931	1931	00	October, 1931	31	Nov
1100	1831	1881	1931	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1831
Indo-China (French) (see also table above): Cambodia 1	117 63 174 133	308 140 108	241 148 148 42	22488			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	60400	9891	10	9900	8	8 64

1 Reports incomplete.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS PEVER, AND YELLOW FEVER-Continued

PLAGUE

C indicates cases: D deaths; P pres

			1							Weel	Week ended-	1					
Place	May 31- June 27,	June	Jul 26	y Aug. 23, Sept. 19, Se	Sept.		Octo	October, 1931	-		No	November, 1931	r, 1931		Dec	December, 1931	
	1931	1831	193	1881	1831	100	9	11	7	150	-	14	12	8	10	27	2
Algeria: Algien	0		6													1	
Bone Philippeville	000	-	2														
Argentina: San Juan Province.	000	-A	-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0													
British East Africe (see also table below): Tanganyika			œ	*	00	CH		00									
Uganda	288 20 1000	418 400	288	288 200	488	22	67	-28	17.00								
Placue-Infected rata		14	000	20 00			01-								11-		
Ohine: Santiago.	DQ																
Shansi Province 1 Shansi Province 1	00			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					11	11							
Duton East Indies: Batavia and West Java	0	73	823	65		33	0 0	88	80.8	25	90 9		1				
Java and Madura. Ecuador (see table below).			205	233	12	8 8	22	22	85	183	132						
Egypt:	DA	13	0.00	10 CM	-	1 1	1 0	1 1	-	-	60-		-		-	-	
Assiout								0		1	1	1	1	-		-	
Beheira Dakahija			6	67								Ħ					-
Delrout			•														
Gharbieh													-				-

Girga Kona

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10n July 27, 1931, 1,250 cases of plague were reported in Chiobe and Changehow, China, since April. On Sept. 19, 1931, 18 deaths were reported in Changehuanpu and new cases in Kaitung and Fengtien.
On Oct. 17, 1931, plague epidemic was reported in western Shansi Province, China, with 2,000 deaths at Hanghalen.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued [C indicates cases; D, deaths; P, present]

			:	_		-			-		-	1	Wee	Week ended-	1				
Place			May 31- June 27,		28- (uly 25, Au	26- 10g. 22, 8	23- Sept. 19,	Sept.		Octo	October, 1931	31	-	No	November, 1931	1881	1	December, 1931	ar,
			148			1881	1991	1831		10	17	24	31	7	14 2	21 28	80	12	10
Bpain: Hospitalet—Barcelona Province Syria: Beirut. Tunisa: Tunis			CACO		C4	100H	8-8-		0			8-			-				
Union of South Africa: Cape Province—Plague-infected rats Orange Free State			-	- 11		-	d				4								
Place	June, 1931	July, 1931	Au- gust, 1931	Sep- tem- ber, 1931	Octo- ber, 1931	No- Vera- 1931,		1		Place				June, 1931	July, 1981	Au- gust, 1931	Sep- tem- per, 1831	Oeto- ber, 1981	Per House
Renya. Renya. Renya. Renya. Renya. Amaluza Parish.—Los Hoyos. Calamor Parish.—Cangochapa. Carlamanga. Calicia Canton.—Choras. Calicia Canton.—Choras. Calicia Canton.—Choras. Calicia Canton.—Choras. Calicia Canton.—Choras. Calicia Canton.—Choras. Naturo. Palas Canton.—San Antonio. Palas Canton.—San Antonio. Data Canton.—San Antonio. Madagascar (see also table above): Ambositra Province. D Antisirabe Province. D Miarinarivo Province. D Miarinarivo Province.	20 20 20 20 20 20 20 20 20 20 20 20 20 2	7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	288 281 281 282 281 281 281 281 281 281	Z - 4 8	8 88 H H W F-884 H 334+		1	Madagascar—Continued Moramanga Provino Tananariva Provino Peru. Senegal: Baol 1. Diourbel 1. Louga 1. Thies 1. Thies 1. Thies 1.	Agascar—Continued. Moramanga Province. Tananarive Province. Dolorbel	roving			000000 0000000000000	H 0000H 488 4888 GERRA	2000 3000 man	800 544 01 0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2128844 EmtHE	6488 6844 1817-176	a

1 Reports incomplete.

SMALLPOX [O indicates cases; D, deaths; P, present]

										W	Week ended-	-pa					- N		
Place	May 31-June 27, 1931	June 28-July 26, 1931	July 26-	Aug.	Se	September, 1931	r, 1931			Octob	October, 1931	-		No	November, 1931	r, 1931	_	December, 1931	aber,
				1881	9	12	10	8	8	10	11	2	18	-	11	12	88	9	22
Algeria: Alglers	- 00				-									-					
Belgian Congo Brazil: Porto Alegre (alastrim)	200	4	2.	-	1 2	120	16	12	20		91	7	2						
British East Africa: Tanganyika	100	149	-9	3.5	*	100	0+	∞ -	100	121	200		000						
Northern Rhodesia.	00	200	8		-	64				-									
Canada: Alberta British Columbia	000	-6			-	-	1	2			11	-	64	84				-	
Winnipeg	000					-	1									1	-		
Ontario	2000	35	9	*	-	64		10	69	1	0		1	60	9	00	-0	40	
Ottawa	000				•	1		9	e4		-		-	60	20		-		
Quebec Saskatchewan Regina	5000	-2	26	00	œ	12	10		•	80		=	60	-	18	22	100	•	
Antofagasta	006	1										09-			11				
China: Amoy Canton Foochow Hankow Manchuria – Kwantung—Dalren	000000	010101 00 P4	A &		A		P.		A		- 4		A.S	+	04-0	n c c	10400	12-64	
Nanking Shanghai— Foreigners only Thenkin	0 000	808	1	1		1	25.00	8∞	11	11	-	•	e4=	2-	2	E.e			

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

SMALLPOX-Continued

iC indicates cases: D. deaths: P. presen

										W	Week ended-	-pel					H	-
Place	May 31-June 27, 1931	June 28-July 25, 1931	July 26- Aug. 22, 1931	Aug.	Se	September, 1931	r, 1931	-		Octob	October, 1931	-		No	November, 1931	. 1931	-	December, 1931
				1831	10	12	19	28	60	10	17	28	31	-	1	21	8	100
Chosen (see table below).						-												
	DOA	cq.		90														
Great Britain: England and Wales		187	16	83		19	19	\$	7	25	7	39	5	2	8	35	\$6	
	SEE.	152	88	88	90	11	25	10.10	37	នង	37	320	52.50	288	2.3	88.60	2.3	
Sheffield Greece (see table below). Honduras. Puerto Castilla.						-	-		-						-			
	20000 27,1	5,359 1,352 6	c4	4-	188	00g rs	222	382	122	258				1 4 1		1111	ec .	
Colcutta	-		gos-	0101		6164			-	e				CO .				
	200	5	1		-			1	10	1901	-	C4	C3		-		C9-	
Negapatam Rangoon Tuticorin			N4W	8- 6					-8-4				1 1 1 1		-	000	0101	
Vizagapatam. India (French): Chandernacer	200 0	6 5 5 6 6 6	₩.	00				CI										
Karikal	ADA	01-4-4	7	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	616	197	# # # # # # # # # # # # # # # # # # #		10.		000			000	-			

Pondicherry Province.

80 44 11 11 11 12 A A A A A A A

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

SMALLPOX-Continued

[C indicates cases; D, deaths; P, present]

				April				ulv.	Au	August, 1931	31	Bep	September, 1931	1831		October, 1931	1881	Nov.
Pisco				1931	1931	1981		1831	1-10	11-20	21-31	1-10	11-20	21-30	F-10	11-20	21-31	1881
Indo-China (see also table above)			-	142		82	4	00-4	82				1-4	200	98	1200	82	84
Ivory Coast				000		-	1				*						Ш	
Place	April, 1931	May, 1931	June, 1931	July, 1931	Au- gust, 1931	Sep- tem- ber, 1931	Octo- ber, 1931			Place			April, 1931	May, 1931	June, J	July, Gu 1931 Ku	Au- Sep- fust, ber, 1931 1931	Det Det
China: Harbin		13	2*	6				More	snis.			00	7	40	8	83	8-	69
France C Greece C Mexico (see also table above) D	9 7	200-	0-8	-8				T STEE	n of S	ocialist	Turkey Union of Socialist Soviet Re- publics	Re C	1, 516	1,345	-		+	

TYPHUS FEVER

	present
	P.
-	deaths;
-	O.
	cases;
•	indicates
	0

									W	Week ended-	Jed-			-		
Place	May 31- June 27,	June 28 July 25,	July 26- Aug. 22,		Se	September, 1931	r, 1931			Octo	October, 1931	=		No	November, 1931	r, 193
				1831	10	21	19	28	69	10	17	34	31	1	11	2
Algeria: Algiers	0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0								-		-	-		
Constantine Department Oran	8000	00	24		1		69		-		111		=	16	=-	
Chile: Antofagasta												-	-			
China: China: Manchuria—Barbin	91			1							П	20			П	
Chosen (see table below). Colombia: Call) A				-			-								
Czecnoskovakia (nec table below). Egypt: Jaxandria	0					-	-									
Beheira Calin Gharbish	000			1										1	-	
Greece (see table below). Guatemala (see table below).	Q			0 0 0 0 0 0 0 0 0 0											-	
trish free State: Cork County— Schull	0															
Skibbereen Kerry County—Listowel Limerick County—	000															
Olin Timerior	000					5								11		II
Michelstown. Rathkeale	000	-						1								
Mayo County— Castlebar Wetner	00															

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CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

TYPHUS FEVER-Continued

[C indicates cases; D, deaths; P, present]

			1	5					W	Week ended-	-pa					
Place	May 31- June 27, 1931	June 28, July 26, 1931	July 26- Aug. 22, 1931		Sep	September, 1931	1931			Octob	October, 1931			Nov	November, 1931	1881
				1831	100	22	91	8		91	17 24	- 31		7 14	- 3	88
Apan. Lithuania (see table below). Maxico:	0 6															
Outning Outning Marico City, including municipalities in Federal District. San Luis Potosi	1 \$2 1 \$2	824	- 22-			8	999	-01	88	1000	, mm	100	900	-	10	
. татеон. Матокко	D D D D		00						11-	[111	-00	-		
Palestine Paramay: Asundon			11			-	-	+	-	-		63		-		
Poland Rimania	0A0	8.0=	828		64		69 60	09 -	o → €	00 1-	- +	64 61	0-E	000	eo e	
Tunisie: Tunis				-		-		1		69	-	00	60	e4	-60	
Turkey (see table below). Union of Socialist Soviet Republics (see table below). Union of South Africa: Cape Frovince	Α.	A	Δ,	A	A	Α.	A	-	A	Δ,	A	- A	Α.	<u> </u>		
Natal Orate Orate Free State	AAA	4 4	4	d	a.	- 4	Д	Д	Д	-	222	24	24	D. D. D.		

Sep- Octo- tember, ber, 1931	1 191
	8 -
Au- gust, 1931	
July, 1931	
June, July, 1931 1931	884 R
May, 1931	1, 824
April, 1931	1, 513 2, 513 2, 513 3, 513 3, 513 3, 513 3, 513 3, 513 3, 513 4, 513 5,
Piace	Lithuania D Turkey Union of Socialist Soviet Re- publics Yugoslavia
Octo- ber, 1931	10
Sep- tember, 1931	9-1
gust, 1931	6000
July, 1931	6 20
fune, 1931	E 23 60-0
May, 1931	19
April, 1	4-020
Place	Chosen: Seoul Creehoslovakia Contraction C

YELLOW FEVER [C indicates cases; D, deaths; P, present]

	-									*	Week ended-	-pap	-				1
Place	27.	May 31- June 27, 1931	June 28- July 25, 1931	July 26- Aug. 22, 1931	Aug. 23- Sept. 19, 1931	Sept.		Octo	October, 1931	18		No	vembe	November, 1931		December, 1931	i per
						1881		10	11	8	25	1	2	8	8		9
Bracil: Alagons State	0			80													
Maceio.	200	11-		1 2								-					
Pernambuco Province	DO:			1	646												11
Recife	10					1											11
Sergipe State. British Cameroons: Mamfe. Colombia: Magdalena Province—Near Cienaga. A Kuse.	0000	-64	7 6														1111
Dagomba District. Kete Krachi Kintampo	A000		- -	7				1									111
Oda	AD		1		1												
	2	******			1	*****	******	******	*****	*****		-	-	-	-		-

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued YELLOW FEVER—Continued [O indicates cases; D, deaths; P present]

27, 1831 27, 1831 27, 1831								Week	Week ended-	1				
DADADA DADA	July July	Aug.	Aug. 23- Sept. 19, 1931	Sept.		Octobe	October, 1931			Nove	November, 1931	1881	Dec	December, 1931
				1931	**	91	17 24	8	-	*	2	88	10	12
	2			0			1	1			11		100	
	64	-		20				11	-	-			11	11
	-	•												Ш
		+	1					11	11	11	#		11	11
Kong Circle	•	2 4	-											
		-						-	-	-	-			
(Pur										1	-	1		
		1												
Sudan (French) Macina - Kayo Circle	•			-						111	010			
Togo (French): Atakpame—Anie Circle				•					111	ine.	N			
	-			-					69					
Diarabakoko.			-				-							